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HEARING ON PROPOSED WATER DEVELOPMENT
IN THE UPPER FEATHER RIVER SERVICE AREA.

PORTOLA, CALIFORNIA,
November 7, 1955.

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Subcommittees of the Assembly, Interim
Committee on Conservation, Planning
and Public Works,

Subcommittee of the Joint Committee
on Water Problems,

HEARING ON PROPOSED WATER DEVELOPMENT
IN THE UPPER FEATHER RIVER SERVICE AREA

Memorial Hall
Portola, California
November 7, 1955
10 A.M.

Francis C. Lindsay, Chairman

MEMBERS PRESENT:

Senator Paul L. Byrne *
Assemblywoman Pauline L. Davis */*
Assemblyman Thomas M. Erwin */*
Assemblyman William W. Hansen **
Senator Ed C. Johnson *
Assemblyman Patrick D. McGee */*
Assemblyman Allen Miller **
Assemblyman Eugene B. Nisbet **
Assemblyman Carley V. Porter *
Assemblyman Jack Schrade **
Assemblyman Jesse M. Unruh **

OTHER LEGISLATORS PRESENT:

Assemblyman Harold T. Sedgwick

STAFF MEMBERS PRESENT:

Samuel E. Wood, Research Director
Patricia Herrick, Secretary

- * Member Joint Committee on Water Problems
- ** Member Assembly Committee on Conservation, Planning & Public Works
- */* Member of both committees

OTHERS PRESENT AND HEARD:

Harvey Banks, Acting State Engineer
William L. Berry, Acting Assistant State Engineer
John R. Teerink, Supervising Hydraulic Engineer, Div. of Water Resources
John Shannon, Land and Water Use Specialist, Div. of Water Resources
Guy Fairchild, Senior Hydraulic Engineer, Div. of Water Resources
Leslie C. Jopson, Water Rights Administrator, Div. of Water Resources
Louis Genassi, Chairman, Sierra County Water Resources Board
Joe Goss, Plumas County Water Resources Board
George Murphy, Legislative Counsel
Chellis Carpenter, President, Portola Chamber of Commerce
Murray Mackall, Executive Secretary, Joint Committee on Water Problems
Professor Paul Keim, College of Engineering, University of California
Charles Weber, Weber Foundation, Water Consultant
Garfield Stubblefield, Water Consultant
Reed Barron, Chairman, Lassen County Water Resources Board
A. E. Strang, Sierraville, California

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CHAIRMAN LINDSAY: (After introduction of members). I would like to call this meeting to order. This is a meeting of a sub-committee of the Joint Committee on Water Problems, and two sub-committees of the Assembly Interim Committee on Conservation, Planning and Public Works. This committee has been traveling for two days in the Feather River Basin country. We are here at the request of Assemblywoman Pauline Davis to come into the field and take a look at the state plans for development of your water resources. We have notified the interested people and groups in Lassen, Sierra and Plumas Counties so that they can be present today to give us the benefit of their views. Mrs. Davis, do you have something you would like to say to the group?

ASSEMBLYMAN DAVIS: Thank you, Mr. Chairman. I want the people here to realize that this is a very important meeting and during the time we are here if you have anything at all on your minds, or any questions to ask of the people here, please feel free to do so. I know that we are all very grateful to the people on this committee for taking the time to come to our country to see what problems we have in the over-all state development.

CHAIRMAN LINDSAY: I would like to introduce Mr. Harvey Banks who is now Acting State Engineer and Harvey will introduce Mr. Berry who will present the case for the Water Resources Board.

HARVEY BANKS, ACTING STATE ENGINEER: Thank you very much, Mr. Lindsay. It's a pleasure for me and the staff of the Division to be here and meet with you and to give you a little report on the work that the Division has been doing and our findings from

studies in the Upper Feather River service area. I would like to turn this over to Mr. William L. Berry, Acting Assistant State Engineer, under whose direction much of this work has been done and who is quite intimately familiar with it. He has with him a number of other staff members who can, we hope, answer any questions that you may desire to ask. Thank you.

WILLIAM L. BERRY, ACTING ASSISTANT STATE ENGINEER: Mr. Chairman and members of the committee, the Legislature recognized in 1947 that the water resources of California needed further investigation and study. The growing water problems of the State were becoming more critical and accordingly they authorized and have provided funds since that time for a statewide investigation of our water resources with the objective of producing a master plan for the development and control and protection and utilization of the water resources of the state for the benefit of all the people.

We call that the California Water Plan and expect to publish the report detailing and outlining **that plan at the end** of this fiscal year of 1956. In 1951 the State Water Resources Board published a special report outlining the so-called Feather River Project. This project, which you all know, involves as its key structure a very large dam on the Feather River near Oroville. This was subsequently adopted by the Legislature as a state project and constitutes the initial feature of the California Water Plan. In 1954 another report was published on the Feather River Project by the State Engineer for the Water Project Authority, which demonstrated the feasibility of that project.

In the Budget Act of 1954 through the efforts of Mrs. Davis, the Legislature authorized a special investigation of this Upper River service area to determine the water requirements for this area under a condition of future complete development for those requirements to fully develop all the natural resources of this area. The so-called Upper Feather River service area was but a part of the larger scope of this investigation, which included 15 counties in the northeastern part of California. The part of this 15-county investigation which pertains to the Upper Feather River service area was to have been completed as of the 1st of this year. Actually a report was published on this area April 19, 1955, and the work on the remainder of the 15 counties is continuing and will be completed at the end of 1956.

Mr. John Teerink, who is now in charge of this 15-county investigation will have a few words to say on the conduct of that investigation and will introduce in turn two of the engineers who are working on various phases of the investigation. We hope to explain here as fully as time will permit the nature of the proposed developments for this Upper Feather River service area and how they tie into the Feather River Project and how they will serve and meet the needs of this so-called area of origin. John Teerink will take over.

JOHN R. TEERINK, SENIOR HYDRAULIC ENGINEER: I will confine my remarks to the scope of the investigation. First, I believe Chairman Lindsay put it very aptly at the hearings in Sacramento last week when he said that we could not determine this by merely waving a wand. We had to go into it from the best engineering and technical abilities that we had to

determine these water requirements. These water requirements would be predicated upon the full development of all natural resources. Those would include mining, timbering, recreation, agriculture as well as domestic and urban uses. Realizing that the consumptive requirement was probably the most significant as far as quantities were involved, this has received the most detailed study.

CHAIRMAN LINDSAY: John, just a moment. I know that the local people here would like to hear this probably as well as we. Would you please take the microphone and stand to one side so the folks in the audience can hear this, too.

JOHN TEERINK: We realized that the first thing we must do in determining these agriculture requirements was a classification of the lands as to their irrigability and their crop adaptability. Then, with your leaders and the local people here we projected a probable crop pattern to determine consumptive requirements and in that way determine the amount of water that might ultimately be required for the full agricultural development of the up-stream areas. This work has been carried out under Mr. John Shannon, Land and Water Use Specialist with the Division of Water Resources. At this time I would like to have Mr. Shannon point out to you on the map some of the results of our land classification studies and our consumptive use requirements.

MR. JOHN SHANNON, LAND AND WATER USE SPECIALIST: Mr. Chairman and members of the legislative committee, Senators, the big problem in this determination of the ultimate water requirements is largely a matter of determination of individual areas. The first step in our determination study was to divide the Upper Feather River area into three major units. We have

the North Fork drainage area, the Upper Feather which comes down into the Feather River Dam. Then the Middle Fork area constitutes all this broad large area including Sierra Valley and this smaller portion of the south fork of the Feather River drainage area. These major areas then were broken down into smaller units which we call smaller hydrographic units and our studies were completed as far as each hydrographic unit. We made complete studies within each unit. I'm not going to give you many facts and figures. These figures have all been presented in our bulletin but in general I'd like to show you just how we carried on this study. The first thing after having set up these various units was to determine the various areas of the units and as part of the total area. Another portion of these studies was to make a determination of the present and the probable ultimate population based upon full development of all the natural resources, agriculture, mining, recreation. All those factors were given consideration. Also, as part of the study we wanted to determine what the present water utilization is in the areas. Upon the map you see the areas that are in green. That represents the present areas that are presently irrigated. Now, having determined the present water utilization we still had to determine what the ultimate picture would be without regard to availability of water. We went to the land and by considering all the pertinent factors that determined the irrigability of land, the physical inventory, we mapped out those lands that we thought were capable of being irrigated if a water supply could be made available. Those areas are shown in the other colors, the yellow and orange. We also had certain areas within the state, or within this area, which while meeting

our standards as far as irrigability was concerned due to their locations, climatic factors and we felt those lands probably would be best suited to remain in fork management - and those are areas as pointed out by the brown areas. Then after having completed the field work, having determined the gross amount of irrigable land, we then came back to the field and by consulting with your farm advisor, agriculture commissioners, soil conservation servicemen , folks that know the area best, the capabilities of the land, we projected what we feel was the best probable land use for each of these irrigable lands.

While this was going on we were also making studies of what the water requirements of each various crop would be. Now we have a new instrument we are using now called an Atmometer. It's a specialized evaporating instrument that actually gives us an index of the amount of radiation received from the sun, which actually is the energy that motivates drop of transpiration. We of course only had one years of record for this study. By taking this one year record, correlated with over ten years of record of Davis, we thought we came up with a very accurate consumptive use value for the various crops. We do hope that such studies as this could be continued in this area and in other areas of the state, but that is a matter of the Legislature to give us some money to do it. We'll be happy to get this basic survey or basic data from over all parts of the state. After having determined these consumptive use values, having projected an ultimate drop pattern, by a combination of those two we came up with an answer which would be the ultimate water requirement as far as agriculture is concerned. At the same time studies were made determining the recreational

requirements, mining, power and all the other natural recent development of the natural resources and what their water requirements would be. I'm not going to burden you with those facts and figures, as I say they are all available in the report. Thank you.

CHAIRMAN LINDSAY: Mr. Shannon, would you for the benefit of the audience particularly describe what you mean by consumptive use value in the water and its difference from the required diversions to get this much use?

MR. SHANNON: Yes Mr. Lindsay. Consumptive use value is actually the amount of water that is used by the plant in its transpiration and growth processes and also includes the amount of water that's evaporated from the surrounding ground surfaces. This differs from the amount of water that actually has to be applied by the irrigator. In other words you are going to have to apply a greater amount of the water to meet this consumptive use value. But that consumptive use value is the amount of water that is actually depletes the stream system and the return - I mean the additional water that's supplied is going to come back to the stream later on in a form of return flow.

CHAIRMAN LINDSAY: This is the water then that is actually lost by the use through irrigation or through the use of water in the city or town.

MR. SHANNON: That's right.

CHAIRMAN LINDSAY: That's consumptive use?

MR. SHANNON: That's right.

CHAIRMAN LINDSAY: Now in other words to - if your plants appear in an irrigated pasture, had a consumptive use of two acre

feet for every acre of ground you may have to apply as much as three and a half to four acre feet of water to that area to actually gain that much use.

MR. SHANNON: That's right sir.

CHAIRMAN LINDSAY: And the difference then would return to the stream anyway. Goes back into the stream and is available for picking up down below and reused.

MR. SHANNON: That's right.

CHAIRMAN LINDSAY: Normally we find that the difference in agriculture is roughly one third. That pretty close? In other words, about one third of the water that is applied to the ground in agriculture actually gets back for reuse.

MR. SHANNON: Well that's right. We have determined efficiencies varying from that.

CHAIRMAN LINDSAY: But in a town for instance, in a town system as much as 50 to 60% of the water that is diverted through the town water system will return to the stream flow. It's delayed but it will return.

MR. SHANNON: That's right sir.

CHAIRMAN LINDSAY: Thank you.

ASSEMBLYMAN DAVIS: Mr. Chairman I would like to ask Mr. Shannon a question. In your Upper Service Area Report, the data that you have within that report, is it based on consumptive use?

MR. SHANNON: Yes. You mean the water requirements as set up? Yes.

ASSEMBLYMAN DAVIS: Well then actually you did not cushion the area for the additional water that must be applied upon the

land in order to arrive at this consumptive figure. Is that correct?

MR. SHANNON: That is right. That would be a matter of engineering to determine the amount of water that would have to be stored to meet these consumptive requirements. There's no firm value that could be set up for that type of study.

ASSEMBLYMAN DAVIS: My point is this Mr. Shannon, that actually the figures that are in the report today are not the figures that we should be interested in and we should have additional acre feet of water if the ones that you have in your report are only on consumptive use. Is that correct?

MR. SHANNON: Of course, we would be concerned. As far as the study is concerned, we don't care how much water you actually store and to divert we feel that your consumptive use is only going to equal this requirement for this consumptive requirement.

ASSEMBLYMAN DAVIS: Mr. Shannon I'm afraid perhaps I'm not making myself clear. You are not answering my question. The estimates or the figures that you have printed in the report that the members of the Legislature have in their possession, are they on a consumptive basis or have you taken into consideration the number of acre feet of water that is necessary to bring forth this consumptive figure? That's what I want to know.

MR. SHANNON: No, the figures that are published in the report are actually only those consumptive use values.

CHAIRMAN LINDSAY: May I ask this question? When a district applies for a water right they have to apply for enough water to get the water on their ground. And that means that instead of applying for a water right for two acre feet of consumptive

use you would apply for a water right large enough to gain that use.

MR. SHANNON: Well I think that's a matter for your legislators to determine how your reservations are going to be based. I mean as far as we are concerned we only determine what actual stream depletion would be.

CHAIRMAN LINDSAY: I think Mr. Banks would like to clarify this point a little bit. Mr. Banks.

MR. BANKS: Mrs. Davis, Mr. Lindsay you are quite right that when applying for a water right you apply for the amount of water which is to be diverted and applied to the land or to use in a city or whatever the use may be. The excess that Mr. Shannon has mentioned here between the consumptive use and the actual amount of water applied, as has been said, returns to the stream and is available for re-diversion down stream or re-appropriation. It is abandoned water. The figure that you are interested in, in this matter, depends on where you are. The people down stream are interested in the amount of depletion that the upstream area is going to cause. The people in the Upper Area are interested in the amount of water that they must have to apply, so there's a shift in view point depending where you are on the stream. And I'm not too sure now what's in the Feather River Service Area Report. I believe there are some figures in there on the amount of applied water necessary as well as the consumptive requirements for the full development of this area up here. But the second figure is derived from the first by using the values of irrigation efficiency. Does that answer your question?

CHAIRMAN LINDSAY: Yes. Mr. Hansen has a question.

ASSEMBLYMAN HANSEN: Well isn't this true that it will depend in the final analysis on the people who live on the land, and if they want to farm one kind of farming it will take one amount of water and if they want to farm another kind of farming it will take a different amount of water and in the final analysis it will be their job to say how much they have to have. It's not the job of the engineers. They can say how much there is, how much will be available if certain things are done, and that's about as far as they can go, but the final analysis it will be the people themselves who say how much they have to have, because of the types of economy that will be present in that area when the water is to be applied. Isn't that right?

MR. BANKS: That is true to a very large extent Mr. Hansen. The irrigation, may we say habits of a particular area do dictate to a considerable extent the amount of water which is diverted and used. Of course there is this other factor that as water becomes increasingly expensive, as it will, that irrigation efficiency will rise by virtue of economic necessity. But there must be, in any event, under the moment I can't conceive of any circumstances where you could reach a 100% irrigation efficiency, that is to say where all of the water applied to the land would be lost through consumptive use and evaporation. You must have some return in order to maintain your soil in good condition.

ASSEMBLYMAN HANSEN: Well isn't this true though that certainly the amount of water that would be necessary for a four month growing season or something of that order, wouldn't be the same as it would be for a 11 or 12 month growing season?

MR. BANKS: Oh, very definitely. True. Yes.

ASSEMBLYMAN HANSEN: Isn't that the matter then that's finally going to decide how much water they will have to try to get and how much they will have to keep?

MR. BANKS: The amount of water will have to be geared to the economy - the growing season, the type of soil, and all that sort of thing in the area concerned.

CHAIRMAN LINDSAY: Then the water figures that the people here are interested in are the amount that needs to be applied in this particular area according to their soil type, their season of growth and their crop pattern. Those things can be fairly accurately determined. That's what they need to file.

MR. BANKS: As far as the Upper Feather River Service Area is concerned, that is quite correct. They are interested in the amount of water that they need to apply to develop these resources.

CHAIRMAN LINDSAY: Now that's for these people up here. But when you start figuring out the firm water capabilities say of the Feather River Dam, you're only interested in what their consumptive use figure is up here.

MR. BANKS: That is correct. Yes.

CHAIRMAN LINDSAY: Mr. Porter.

ASSEMBLYMAN PORTER: I thought Mr. Lindsay and Mr. Banks that I understood it clearly for a moment then something what was just said disturbed that balance. If it's for agricultural use, you said that about 1/3 of the water would eventually be returned so it could be used again, is that right?

MR. BANKS: Yes, that's correct.

ASSEMBLYMAN PORTER: Well then, does the person who is using the water first need to concern himself with the amount

that is going to be returned? In other words does he have to apply for an additional amount in order to be able to use the consumptive amount?

MR. BANKS: In filing for a water right the water user applies for the amount of water which he will divert from the stream and run through the canal system to his land. That includes the so-called return flow as well as the consumptive requirements.

ASSEMBLYMAN PORTER: Then my question is why is that additional amount necessary? For what reason?

MR. BANKS: You must pass a certain amount of water through your soil for one reason, in order to prevent a build up of salts within the soil solution to the point where they become toxic to the plants. In other words there must be a certain amount of return flow passing down through the soil through the root zone and either down into the ground water and then into the stream via the ground water or directly into the streams by drainage. That is the primary reason.

ASSEMBLYMAN PORTER: I think that answers my question.

CHAIRMAN LINDSAY: Then there's the mechanical reason of just getting the water on the ground. In other words you are trying to run water down a 300 ft. row to get enough water to reach the end of the row you are going to lose some water at the top of the row and that's going to return, and so just the mechanical handling of water you are going to lose some of it.

MR. BANKS: Even under the best of circumstances and with very high priced water I doubt that you will ever get much better than 80 to 85 percent irrigation efficiency. Then where water is cheaper we have long canal systems and as Mr. Lindsay has said,

long runs in irrigation furrows the actual irrigation efficiency will be lower. I think in the Upper Feather River service area report in Table 31 on page 140, we have made some estimates of what we think will be the ultimate irrigation efficiencies and they run from 50% to 80%, in that order, depending upon the soil, the length of run, the type of crop, the history of irrigation in that area, and that sort of thing.

CHAIRMAN LINDSAY: I think that answers the question.

Thank you.

MR. TEERINK: Mr. Lindsay would you care for us to go on with the presentation?

CHAIRMAN LINDSAY: Yes, please do.

MR. TEERINK: In making use of these ultimate requirements of the area the full development of these natural resources, some consideration should be given to plans whereby these resources might be exploited. In other words, some plans of development must be considered to see if the water could be utilized in the area for the use of these natural resources. So for that reason consideration was given to some plans for development in the Upper Feather River drainage basin. At this point I would like to say that what we are to present here right now concerns the Upper Feather River basin, not the lower basin, the south fork of the Feather River which we have not considered, and have not talked about on this trip, and which is not in this report of the State Engineer on the North Eastern counties investigation. Other than a mention of it and recommendation concerning it, the plan of development has been presented in another report. But the State Engineer in this report made some recommendations among which

included five plans of development to be included in the Feather River project. The State Engineers recommendations were the following projects: Antelope Valley Reservoir, Dixie Refuge Reservoir, Abbey Bridge Reservoir, Grizzly Valley Reservoir, and Frenchman Reservoir. I believe on our trip yesterday we saw all those but one. We did not get up to the Antelope Valley Reservoir. The State Engineer also recommended that of the plans presented in the report on the Upper Feather River Service Area, the following projects be given further study for consideration as features of the California Water Plan. Those projects were: Squaw Queen Project, Indian Falls, Meadow Valley, and Sheep Camp Project. Now if you would like we will have Mr. Guy Fairchild who is Senior Hydraulic Engineer of the Division of Water Resources, who's been working particularly on this Upper Feather area, to give a brief description of those projects.

CHAIRMAN LINDSAY: Mr. Fairchild.

GUY FAIRCHILD, SENIOR HYDRAULIC ENGINEER: I would like to start this presentation by orienting you people with the features of this map. On this map we are here at Portola, shown on the map just below Sierra Valley, and this large colored area here being Sierra Valley and this area - this small colored area here being American Valley down at Quincy where we stayed last night. Susianville being off the map and up to the upper right of the map. I would also like to point out the drainage basins in the Feather River. The line marking the boundary between the North Fork and the Middle Fork to the Feather River extends along above Sierra Valley up around the Big Grizzly Creek drainage area and down along just south of Quincy and extends on down south of Bucks Lake and

down in the Middle Fork of the Feather River enters the North Fork of the Feather River at the proposed Oroville Reservoir site. The South Fork of the Feather River being much smaller than the other two major drainage areas of the Feather River basin, is this small area in the southern part of the drainage basin, and the south fork of the Feather River enters the Middle Fork just before the Middle Fork enters the North Fork down at the Oroville Reservoir site.

In working out a plan of development for the Feather River basin, we attempted to work out a number of possible projects that will not only serve as conservation reservoirs for the irrigation of irrigable lands that's in the service area, but also we attempted to work out projects and we've developed water supplies for industrial and recreational and fishing purposes. On this map the proposed reservoirs are these blotches of dark red that you see here on the map. Existing developments are those areas that have been colored blue. For instance this large blue area here is Lake Almanor. Before proceeding with the presentation I would like to make one comment and that is that in the Feather River basin all of the irrigable valleys in the basin have sufficient water supplies that flow through the valleys and if developed you would have sufficient water for ultimate development of the irrigable areas except for the Sierra Valley. There is not in Sierra Valley sufficient inflow into the valley. There's not sufficient inflow into the valley, if it was all conserved to completely develop the whole irrigable area in the valley. Despite the fact that we did not attempt to make any economic feasibility studies of the various proposals that we presented. These reservoirs that we have presented here in the drainage area to Sierra Valley,

Frenchman Reservoir, Grizzly Valley Reservoir and Sheep Camp Reservoir, we felt are the ones that would have the best possibility of being constructed.

If all lands in Sierra Valley were to be served and irrigable, a water supply for all the lands of the valley, you would have to import water into the valley from outside of the Middle Fork drainage area. This could be done from the North Fork drainage area of the Feather River Basin and also in addition to these three reservoirs there is a possibility of greatly enlarging the present development of the ground water in the basin. The reservoirs that would be required for that purpose would be the construction of this Squaw Queen Reservoir and the Abbey Bridge in a diversion which isn't shown on this map, or to this valley. But I would like to point out one thing and that is that the Pacific Gas and Electric Company has an enormous development on the North Fork here in their power development, and any water that would be diverted away from the Upper North Fork into the Middle Fork drainage, would certainly be met with considerable resistance. So what is shown on this map is what was considered to be the best possibility for developing the inflow into Sierra Valley for use in that valley.

By starting with this Middle Fork drainage area here - this Frenchman Reservoir on Little Last Chance Creek, which drains southward into the valley, one of the better possibilities for developing a supply is offered - a supplemental water supply for the valley. We had planned a storage reservoir at this site with a capacity of some thirty thousand acre feet for use in this valley. This reservoir, if constructed, would provide a source of water which could be served by gravity to the lands in the

northeastern part of Sierra Valley and would prove a very valuable addition to the water supply that is available now. Sheep Camp Reservoir is another possibility. This reservoir provides one of the few opportunities for storing water along the west side of Sierra Valley. I would like to point out that by far the biggest percentage of the inflow into Sierra Valley originates along the west side of the valley. The east side of the valley is extremely dry. This Sheep Camp site is one of the very few possibilities that exists for storing water on this side of the valley. There's several possibilities as I attempted to outline yesterday for conserving the waters at this site. One of the possibilities would be the construction of an intercepting canal some three miles in length that would extend across the valley. All the waters from the upper end of the valley here, which is by far the most productive area, as it flowed northward here, would be intercepted at this intercepting canal and conveyed over to the reservoir site where they would have to be pumped into the reservoir. This pump lift would be in the order of a maximum lift of 100 feet. There is a possibility of constructing. This possibility was not gone into in great detail in our investigation, and certainly before this reservoir was constructed this plan would merit consideration. This possibility would be a construction of an intercepting canal extending along the base of the foothills to the reservoir and the waters would flow by gravity for storage in this reservoir. Sheep Camp reservoir is located on Craycroft Creek and is an off stream storage reservoir. The local inflow into the reservoir is somewhat greater than that would be needed to take care of evaporation from the reservoir surface, but the inflow isn't much.

In addition whether the intercepting canal across the Sierra Valley is used or whether the gravity canal along the base of the foothills is used, there is a possibility that also should be studied for diverting waters from over in the Mohawk Valley area, surplus flood waters, over a pass just to the west of Sheep Camp Reservoir for storage in Sheep Camp reservoir and used in Sierra Valley. These waters would be those waters that extend down through the Mohawk Valley area that we crossed as we were going over to Johnsville yesterday. Might be a possibility of getting additional waters out of Gold Lake. I do not know just exactly what they would be. There might be a possibility that sufficient waters could be diverted into Sheep Camp from this area with just a construction of these three reservoirs.

Grizzly Valley Reservoir, as I stated yesterday, is one possibility for storing the waters of Grizzly Creek and in my estimation is one of the finest little projects that I have worked on since I have been working for the State. There is an excellent dam site for this reservoir. Water conserved in this Grizzly Valley Reservoir could be used in a number of different ways. It could be diverted for use in Sierra Valley, or if it were operated as a reservoir for stream maintenance or the development of a better fishery in the Middle Fork of the Feather River and to enhance the recreational aspects of the area, it could be operated so that there would be a flow of 50 cubic feet per second, a minimum flow of 50 cubic feet per second in the Middle Fork of the Feather River past Portola at all times. At the present time the Middle Fork of the Feather River goes completely dry during certain summer months of the year and this would be a very desirable project for develop-

ment of the recreational possibilities that you people have in this area. I just can't find adjectives enough to describe the possibilities I think would come from such a development if operated in that manner, the way that it would be operated, would be that whenever the flow of the Middle Fork out of the valley fell below 50 cubic feet per second you would release water from the reservoir for that purpose and not until it fell below that. It would be just a few months in the summer of each year that you would be releasing water in the reservoir.

CHAIRMAN LINDSAY: Before you go into any other phase, is there anybody here from Sierra Valley who would like to ask any questions about the water development?

ASSEMBLYMAN PORTER: I have one question.

FROM AUDIENCE: I would just like to ask Mr. Fairchild if he would explain how he would divert that water in the Grizzly Dam for irrigation purposes?

CHAIRMAN LINDSAY: The questions been asked "how would you divert the water in Grizzly Valley for irrigation purposes"?

MR. FAIRCHILD: Well the water could be released down-stream. This Grizzly Valley Reservoir lies, I think its seven or eight hundred feet in elevation above the valley floor, the water would be released from the reservoir which would flow down-stream, and I do not know at the present time, I do not remember the exact spot which would be diverted for irrigation, but I think it is somewhere near the site of the old Grizzly ice pond on Grizzly Stream. I believe at that site the water could be diverted by canal around the valley for use in the valley. But that would be a very easy project to lay out, I'm sure. Also from the Grizzly

ice pond water could be diverted around for domestic use downstream at Portola area or further on down the stream too if that would be desired.

ASSEMBLYMAN PORTER: My question is related to the one that was just asked by Joe Goss in the audience. At first I think Mr. Fairchild you recommended that water be brought from the North Fork to Sierra Valley, was that correct?

MR. FAIRCHILD: No, I didn't make myself clear there on that point. I mentioned the possibility of diverting water from the North Fork to Sierra Valley to show that it is an engineering possibility. It's possible engineeringly but I frankly do not think it's possible from a legal standpoint because the rights to this water in the North Fork is now held by the power company on the lower North Fork of the Feather River. If you divert the water from the North Fork into the Middle Fork it's diverted away from those power signs.

ASSEMBLYMAN PORTER: That answers part of my question because I wondered about whether we could get the rights or whether there was a conflict in water rights involved, and also the distance from the North Fork to the Sierra Valley, and I wondered why we wouldn't recommend taking the water from the two reservoirs, Frenchman Reservoir and Grizzly Valley Reservoir on the Middle Fork. Now if we come to the point where we would think it more practical to take the water from Grizzly Valley or Frenchman Reservoir to the Sierra Valley, will we run into any conflict in rights to water on those streams?

MR. FAIRCHILD: There are existing water rights from the waters of Little Last Chance Creek. This area in Sierra Valley is

an adjudicated area in the present unregulated flows that enter the valley have all been adjudicated. If a reservoir was constructed on Frenchman Creek undoubtedly the existing water rights would have to be taken into consideration. Those people who now own those water rights certainly wouldn't lose them. But by the construction of the reservoir a firm water supply would then be realized. By operation of the reservoir you could assure yourself of a firm water supply which would be available year after year and there wouldn't be years of large surplus and years of extreme shortage.

ASSEMBLYMAN PORTER: You mean then that by developing the reservoirs in the streams property you would be storing enough - developing enough additional water so that you could take care of some of the additional needs of Sierra Valley?

MR. FAIRCHILD: Yes, that is true.

ASSEMBLYMAN PORTER: Over and above the adjudicated rights existing now?

MR. FAIRCHILD: Yes.

ASSEMBLYMAN UNRUH: I wanted to ask on these adjudicated rights up at the top of the valley here where Frenchmans Creek comes out, or is this Grizzly Creek here at the top?

MR. FAIRCHILD: It's Little Last Chance Creek.

ASSEMBLYMAN UNRUH: Those water rights there, say for example, those which are quite extensive at the top of the valley, if a land owner has five thousand acres, does he have water rights to all of that? Now what is the current status there?

MR. FAIRCHILD: I'd like to beg off this question. I'm not a water rights expert and we do have representatives here

who are far more qualified to answer those questions.

MR. BANKS: Mr. Unruh, may I suggest that Mr. Jopson answer that question.

LESLIE C. JOPSON, WATER RIGHTS ADMINISTRATOR: In 1936 a proceeding was initiated by the water users in Sierra Valley for adjudication of their rights to the water on the streams flowing through the basin. That adjudication was consummated into a court decree, I believe in 1939. Those rights are fixed in a record in the respective county records and as long as they are used they are good indefinitely. Any development of water in the area would have to take those into consideration. If water was to be taken out of the Valley it would have to be subject to those rights. If development is made around the water sheds in the valley for the benefit of the people in the valley, adjudicated rights would still have to be recognized but perhaps by agreement the reservoir could be operated to use that water a little more advantageously, because under natural conditions the flow comes out rather hurriedly in the spring and very short before the summer is over.

ASSEMBLYMAN UNRUH: What I'm trying to arrive at here is this. If we firmed up this water supply here - now for example - there's currently no acreage limitation on what any one land owner may use of this water. If he has established water rights he has established water rights to all of the land which he may hold, in a given case let's say.

MR. JOPSON: In defining the water rights in the area, the water rights were defined in amount required to irrigate certain specific acreages which he then irrigated. It was considered that was the extent of those water rights. And any increase in acreage

would necessarily be an additional right as we understand it.

ASSEMBLYMAN UNRUH: What are the sizes of those average water rights now would you say?

MR. JOPSON: They vary. There's one ranch in the valley, it has I believe three thousand acres of irrigated land. That's approximately 30 to 35 cubic feet per second, I believe, allotted to that. Then there are other ranches of less than 100 acres on which the water right would probably be down to a neighborhood of 1 cubic foot per second and still smaller domestic and farm lot rights where it's down within a few hundreths of a cubic foot per second.

ASSEMBLYMAN UNRUH: Then under any program to firm up this water supply, we would first have to satisfy the demands of the existing water rights established there, wouldn't we?

MR. JOPSON: That is correct.

ASSEMBLYMAN UNRUH: Regardless of the size of the individual land holder?

MR. JOPSON: That is correct.

ASSEMBLYMAN McGEE: Sir, you are talking about decreed water now, are you not?

MR. JOPSON: Yes.

ASSEMBLYMAN McGEE: The only water that flows into the valley that originates outside the valley is on Little Last Chance, is that correct?

MR. JOPSON: Little Last Chance is a tributary to the Middle Fork of Feather River and naturally flows into the valley. It is part of the natural supply.

ASSEMBLYMAN McGEE: But Grizzly Creek water does not flow into the valley, does it?

MR. JOPSON: That is correct. Grizzly Creek comes into the river below what we usually term the outlet of the valley.

ASSEMBLYMAN McGEE: Do you know whether or not the water in Grizzly Creek has been decreed?

MR. JOPSON: No, I don't believe it has. There is one large ditch that takes out of Grizzly Creek near where it runs into the Middle Fork of Feather River. As far as I know that is the only recognized right that actually diverts water. Now there probably is some moderate use in the upstream basin that uses water at times, but there never has been a definition of it. There is some riparian lands in the upper area.

ASSEMBLYMAN McGEE: Are the waters in the north branch of the Feather River decreed?

MR. JOPSON: They have been decreed on Indian Creek above its mouth, I believe is the terminology. The area in which Mr. Fairchild is pointing is a main agricultural area.

ASSEMBLYMAN McGEE: Where there's present irrigation going on now?

MR. JOPSON: Present irrigation now, and the upstream basins above that on Indian Creek where water was used at the time adjudication were included and have had their rights determined.

ASSEMBLYMAN McGEE: A last question Mr. Chairman for Mr. Fairchild. Are there any extensive power developments on the down-stream of the Middle Fork of the Feather River which possibly might object to the diversion of Grizzly Creek water into the Sierra Valley?

MR. FAIRCHILD: There are no existing power developments on the Middle Fork of any kind at the present time. However, there

have been a number of applications for permits for water rights for such developments.

ASSEMBLYMAN McGEE: Thank you.

SENATOR JOHNSON: I'd like to clarify this possible diversion from the North Fork drainage area into the Middle Fork drainage area. Now let's lay aside any claim that the power companies may have to this water. Would it also not effect the availability of water from that drainage area down into the lower country?

MR. FAIRCHILD: Yes sir, that is true. It would. However, I would like to point out the major irrigable lands as Mr. Jopson just stated is here in Indian Valley on Indian Creek. In Indian Valley there are some eleven or twelve thousand acres of irrigable land. The outflow at Crescent Mills at the outflow of the valley, Indian Creek does a mean angle flow of something like three hundred and twenty thousand acre feet, far more water than could ever be used for consumptive use in this valley.

SENATOR JOHNSON: Well what I was concerned about is the water continuing down into the valley and into the San Joaquin and possibly further than that. That water would be taken over into this area and that area would be limited to that extent.

MR. FAIRCHILD: All developments in the upstream basin will effect the flow of the river at Oroville. All of them will have some effect on the flow. So they will all have some effect on the water supply in the river at Oroville. I might add, before leaving this subject of this diversion of the North Fork into the Middle Fork, we included in our report a plan with cost estimates which we call, and you have it in your booklet that we passed out, Sierra

Valley Import Plan, and it is a plan for diverting water from the North Fork to the Middle Fork drainage. But I would like to emphasize the point that there's certainly a legal problem of considerable magnitude there.

ASSEMBLYMAN DAVIS: Mr. Fairchild, to clarify Senator Johnson's question that he asked you relative to the supply of water to the people down below, to what extent would this development affect possibly the future construction of the Feather River Project, if at all?

MR. FAIRCHILD: Naturally it would have very little effect upon it. The main reason would be that the flow of the Feather River at Oroville is - I am trying to recall these figures from memory - some four and a half million acre feet. The consumptive use that you are talking about in these upper areas is a few hundred thousand acre feet, or a small percentage of the total flow, and it doesn't have too much effect on the flow at the Oroville reservoir site.

ASSEMBLYMAN DAVIS: So actually it would not impair the Feather River Dam?

MR. FAIRCHILD: Certain projects would, but to a very minor extent.

ASSEMBLYMAN DAVIS: Is it true that there is an irrigation district in Butte County that has filed upon one of the streams here for future water rights?

MR. FAIRCHILD: Yes. The Richfield Irrigation District has filed to construct a reservoir on Frenchman Creek, in Grizzly Valley, at the Clio site in Mohawk Valley. This Clio site being down there at the lumber company that we visited yesterday, down

there near the Graeagle Lumber Company. They have filed for a water right to construct this Frenchman, Grizzly Valley and Clio Reservoir to be used for a power development which is not shown on this map, but is shown on one of the plates I believe in your report. I believe it's plate number 7 or plate number 8. The Richfield irrigation district plans of the Middle Fork development is shown. These reservoirs, Frenchman, under this plan, Frenchman, Grizzly Creek and Clio here in Mohawk Valley would be operated to conserve water for this power development down the Middle Fork of the Feather River for use and also for irrigation use down in the valley.

ASSEMBLYMAN DAVIS: Then would you say that it might be wise for the people in Sierra Valley to immediately also make application on these waters, and that it would be within the decision of the Division of Water Resources as who would have the right to these future water supplies?

MR. FAIRCHILD: I should think that that would be the correct order of procedure. It's conceivable that these permits could be obtained for these projects for which the Richfield Irrigation District has filed and I suppose once they receive a permit they could.

MR. JOPSON: Maybe I should add a little to that. As the Richfield Irrigation District filings have been completed and have been advertised, I believe, but they in doing that they have excluded the Last Chance project from their completed filings, and I believe have filed another application because they didn't want to go ahead with the planning of it at this present time. So it's in a little different status right now than their other applications down the river, but the only way that the people in Sierra Valley

can get the benefit of the water in that stream, and that is in excess of what is required to fill their decreed rights, would be by filing an application on it. Of course an application is in the intention of proceeding with the development with due diligence. And in filing an application they should have that in mind that they should plan to proceed. But it's the only way in which they can acquire title to those waters to the right to develop it. If they have any plans at all there would be certainly a desirability in filing in order to protect their rights and to have their rights considered if some other agency gets to the point where their rights are being considered for permits.

ASSEMBLYMAN DAVIS: Do you feel that the individual by filing for these water rights, if they had a plan in mind, could protect them or would they be better protected by the formation of a district for those users within that repective area, and then make a filing on that unappropriated water with a plan in mind?

MR. JOPSON: This is rather my personal opinion that some sort of a district would be the desirable thing to do because in order to finance it it would seem a necessity and also it would give them a uniform group action in the matter which acting individually might be a little difficult to attain.

ASSEMBLYMAN McGEE: Pauline, there's no district now?

ASSEMBLYMAN DAVIS: No.

ASSEMBLYMAN McGEE: Sierra Valley is not a irrigation district?

ASSEMBLYMAN DAVIS: No.

SENATOR JOHNSON: I'd just like to clarify this North Fork proposed diversion. What is the capacity of those two reservoirs?

MR. FAIRCHILD: We figured that the outside water for full development of the valley that would be necessary would be the construction of Squaw Queen Reservoir on Last Chance Creek with a capacity of I believe a hundred and thirty nine thousand acre feet and a construction of Abbey Bridge Reservoir on Red Clover Creek with a capacity of some eight or ten thousand acre feet.

SENATOR JOHNSON: That would be roughly a hundred and twenty five thousand acre feet of water?

MR. FAIRCHILD: The storage capacity is a hundred and thirty nine thousand here and eight or ten thousand here, roughly a hundred and fifty thousand feet of storage capacity, but the yield is considerably less. I believe that it might be shown on this table. The safe annual yield of the Sierra Valley import project including Grizzly Valley Reservoir on this side of the drainage basin, in here, I just have it shown for these three reservoirs, and this reservoir is in the Middle Fork drainage, is sixty two thousand five hundred acre feet.

SENATOR JOHNSON: Well confining our remarks alone to the North Fork then by that construction of that reservoir it would take approximately a hundred and fifty thousand acre feet of water out of the North Fork drainage area?

MR. FAIRCHILD: No, it wouldn't. I would say it would be in the neighborhood, and I am guessing now because I do not have the facts, it would be an annual diversion from the North Fork of something like forty five thousand acre feet. Now that is purely a guess. It could be ten thousand acre feet one or the other. I'm just thinking that the total yield of the three reservoirs mean

sixty two thousand five hundred and attempting to subtract what Grizzly Valley would yield.

MR. JOPSON: May I make a little explanation there. The yield of those reservoirs are in an area where the run-off fluctuates considerably from year to year, and there would probably be required some carry-over storage and would probably be the reason for the large reservoir. Now actually what you could get on an average would be much less than the total capacity. That's the figure Mr. Fairchild gave you as the average amount you could get out of that larger reservoir.

MR. FAIRCHILD: I'm sorry I didn't make that clear. When discussing these projects up here I'll attempt to explain the reason for the size of these reservoirs. Some of these reservoirs are quite large in proportion to their annual yield. For instance this Squaw Valley Reservoir. It's just that it's cheap to construct a reservoir at that site because it's a good dam site, and by going up to a dam that high you hit a natural spillway. It just makes it rather cheap to construct a large reservoir for the amount of yield that you can get from that reservoir. Going on with the discussion here, I will switch, at this time, to the North Fork drainage now. As you saw yesterday in your travel from Susanville to this area when we went up the grade at Milford and extended our travel down along this plateau, this area up here in the Upper Indian Creek drainage, Indian Creek coming down through Indian Valley and joining up with Spanish Creek which flows out of American Valley, the two creeks then become the east branch of the North Fork and they join up with the North Fork down here at Belden. Now on Indian Creek here in this large plateau area that we extended

our travels across here yesterday, the streams meander across this plateau up there and the great drop in the creeks per mile is very low and it provides a condition which if developed properly the Department of Fish and Game representatives tell us, would provide ideal streams that could be maintained for fishing interests. Also if these streams were maintained, and continuous flow was improved during the low summer months, the reservoirs on these streams would not only provide greatly improved fishing in these streams, but would tremendously enhance the whole recreational aspects of the Upper Indian Creek basin. We had considered several small reservoirs up in this area which would be operated primarily for recreational purposes.

There's one thing I'd like to point out just for clarification and that is that Last Chance Creek drains this way into Indian Creek while Little Last Chance drains this way into Sierra Valley. The Last Chance Creek provides an opportunity up here at the Dixie Refuge site for the construction of a small reservoir. I do not remember the exact height, it's some fifty or sixty feet in height, which if operated for stream maintenance purposes, and if these other reservoirs here were not constructed, there's a possibility of maintaining some thirty seven miles of stream here for fishing purposes, and fishing and recreational purposes, and it would be a very desirable development. If I remember the cost correctly, we have some four hundred thousand dollars as the estimated cost of this project. If these other reservoirs like Squaw Queen Reservoir were constructed, the fish and game people feel that it still would be a very desirable project for maintaining the stream between this proposed Dixie Refuge Reservoir and this proposed Squaw Queen Reservoir.

FROM THE AUDIENCE: How many miles?

MR. FAIRCHILD: I don't know just how many miles it is sir. It's something like ten miles. Also there is a possibility on Red Clover Creek of constructing this same type of development. This reservoir could be the Abbey Bridge Reservoir, or there is a possibility of constructing a reservoir just up-stream in this larger valley here, which if operated would increase the flows in Red Clover Creek to improve the recreational and fishery possibilities of this area.

Indian Creek extends on up and this is the upper portion of Indian Creek. There is a possibility for a reservoir which we call Antelope Valley which should be constructed, as the name implies in Antelope Valley. I believe this reservoir has a capacity of something like eighteen thousand acre feet and again I believe the cost of it was somewhere near in the neighborhood of four hundred thousand dollars.

Now to talk a little bit about this Squaw Queen Reservoir. There is a possibility of constructing a reservoir on Indian Creek just as Squaw Queen site, which would store a hundred and thirty nine thousand acre feet of water. This reservoir could be operated in several different methods. One possibility is part of a power development that could be developed, and certainly if the reservoir was constructed and it was a part of the North Fork of the Feather River development, you would construct the power features of this project. The reservoir, I think, would yield some thirty six thousand acre feet of water that could be used for power development by extending a canal around the hill. I think the canal has something over four miles of length and then you would drop through

a pinstock some sixteen or eighteen hundred feet, I do not remember the exact figures, for a power plant at the head of Genessee Valley. In our cost estimates of this project we estimated that the power revenues would be considerably more than the total cost of the project.

In addition to this Squaw Queen project and the power that would be developed from it, you would have a regulated water supply of some thirty six thousand acre feet which could be used for power purposes down-stream and also for a supplemental water supply for Indian Valley. Indian Valley at the present time, as I stated previously, has a far bigger water supply running through the valley that is actually needed in the valley, but at the present time, it is my understanding that in certain summer months, late summer months, because there is no regulation up-stream, they do run short on water. There have been proposals in the past for constructing a reservoir at the outlet of Indian Valley and putting all of it in valley for a reservoir.

As an alternative proposal we planned and estimated the cost of a reservoir in Genessee Valley, which would be a substitute for a plan of flooding Indian Valley. Genessee Reservoir with a dam some hundred and sixty feet in height, if I remember correctly, would form a reservoir of two hundred and seventy six thousand acre feet capacity. Now this reservoir also could be used to serve some supplemental water at the Indian Valley, but its main purpose would be for a power development. A small reservoir could be constructed on Indian Creek at the outlet of Indian Valley. This small reservoir we call Indian Falls reservoir. This reservoir would be constructed so that it would not interflow with the outflow of the valley. From

this small reservoir, a total sum three miles in length, would convey waters to be dropped through a power plant which we located down here on the east branch of the North Fork. The way this power system would operate is that there are a number of creeks ending into Indian Valley - Wolf Creek enters from the Greenhill area, Lights Creek enters from the north. These creeks do not have, from our preliminary study, desirable storage sites to regulate the flows of the two creeks. So therefore the waters from Wolf Creek and Lights Creek would flow down unregulated, cross Indian Valley, and into the Indian Falls Reservoir and conveyed for power development. When ever these flows fell below a certain specified amount then you would make releases from Genessee Reservoir which would flow down-stream into this forbay for this power development where they would be conveyed for power purposes through the power plant.

ASSEMBLYMAN DAVIS: Mr. Chairman, I would like to interrupt Mr. Fairchild there. Then this power development if it were constructed would actually be an addition, from a dollar standpoint, to the Feather River Project itself. Would it not as far as power energy is concerned?

MR. FAIRCHILD: Yes. This power development if constructed by regulating the waters up-stream would also provide a more regulated flow into Oroville Reservoir and also would increase the power revenues at Oroville Reservoir. These projects that have been outlined on this map, strictly for power purposes all have a favorable cost benefit ratio. The revenues from them would more than pay for the costs. And it is our feeling that a stream like Indian Creek here with something over three hundred thousand acre feet of water here would probably ultimately be developed for power

purposes in some manner, and we thought that this was a plan that certainly should be given consideration.

CHAIRMAN LINDSAY: Mr. Fairchild, has there been any effort made to find out if there would be any value to this water through the existing P.G. & E. plants on the North Fork?

MR. FAIRCHILD: Yes. We made estimates of that and in our report we assigned a value. We did not consider the dependable capacity being increased in the plants. It would take a tremendous operational study - the whole P.G. & E. system in order to determine what it was and frankly we didn't have time. But we, in our estimates, considered a value of 2.8 mills per kilowatt hour in the P.G.&E. plants when they are figuring our revenues. That may be conservative when a complete operation study is made. Just a little information on the North Fork as I stated before, the P.G.&E. has an extensive power development on the North Fork. The Upper reservoir here, the Mountain Meadow Reservoir, they convey the water around and drop it through a power plant into Lake Almanor. Lake Almanor provides a large regulated storage for the power development down stream. It's my understanding that they have now received a permit to construct the power development between Lake Almanor and Butt Lake here. From Butt Lake they now have Caribou Power Plant. It's my understanding they now have a permit to put in a parallel tunnel through the Caribou Power Plant for an additional power plant there and they also have a permit for a power development between the Caribou Plant and the Rock Creek project down here at Belden. The Bucks Lake power development here is also in existence. The Bucks Creek Power Plant, if you noticed as we came up the highway here this tremendous penstock extending up the hill, I believe

the power head here is nearly twenty six hundred feet, one of the highest head power plants in the country. To complete our study of this area we made estimates of a number of projects on the Middle Fork to determine a plan which we thought would have some possibilities for development. As I have stated before the Richfield Irrigation District has a plan for a series of power developments down the Middle Fork. And before I go into the plan that we have outlined in our report I would like to state that on this map, these areas that we have outlined in this shaded area here, are areas that we felt could be very beneficially developed for recreational purposes. As you know this whole area in here around Mohawk Valley and Johnsville and so on, is in that area. The Department of Fish and Game have their biologists who worked with us on this investigation. They were quite concerned with development of the Middle Fork of the Feather River, because they thought that the fishing potential exists there now. They could be made accessible and they would be very desirous of having it maintained somewhere near the state that it is at the present time. We worked out a plan where we would put in a reservoir called Nelson Point Reservoir on the Middle Fork of the Feather River just south of Quincy. This reservoir would be used as a diversion reservoir to divert waters through a tunnel for storage in Meadow Valley Reservoir immediately west of the town of Quincy. This Nelson point reservoir would provide some fifty two thousand acre feet of storage and the water would be diverted by gravity over to Meadow Valley for storage. The dam here is something over four hundred feet in height and would store seven hundred and forty thousand acre feet of water. This water would be diverted through a tunnel to a power plant which would be constructed on the

North Fork of the Feather River near Belden. I believe the power plant here that we have figured for this project was somewhere in the neighborhood of a hundred and twenty five thousand kilowatt capacity. Then this regulated water that would be diverted from the Middle Fork and would go down through the existing Pacific Gas and Electric plants on the North Fork. And I would like to state here that the tunnel capacity on these power projects is considerable. I believe the lower tunnels have a capacity of some thirty five hundred cubic feet per second while this tunnel from Rock Creek, I believe, has a capacity of somewhere around three thousand acre feet per second.

ASSEMBLYMAN McGEE: You're now diverting water from the Middle Fork to the North Fork?

MR. FAIRCHILD: Yes sir.

ASSEMBLYMAN McGEE: First of all is there any lift here? To get over that divide?

MR. FAIRCHILD: No the water would be diverted by gravity.

ASSEMBLYMAN McGEE: You could go from there to there by gravity with no lift at that water divide?

MR. FAIRCHILD: Yes. I might say is that whole dash line there is a tunnel.

ASSEMBLYMAN McGEE: To what extent would the diversion of this water from the Middle Fork to the North Fork approximate the other diversion you suggested from the North Fork to the Middle Fork back there?

MR. FAIRCHILD: That is something that we had considered and do not know whether we have lined a description of that in the report in that respect, but this diversion here would far more

than compensate for the upper diversion.

ASSEMBLYMAN McGEE: It would so that if the P.G.&E. did object you could point out that whatever water you might take away from them here they would receive back here.

MR. FAIRCHILD: Very definitely. That would be two hundred and seventy two thousand acre feet a year while the upper diversion up here would be somewhere around forty five or fifty thousand acre feet probably. It's considerably more. I don't have a great deal more to add here. If there are no further questions from the members of the committee -

CHAIRMAN LINDSAY: Are there any questions from the audience?

LOUIE GENASSI: Chairman Lindsay I would like to ask -

CHAIRMAN LINDSAY: Would you come up and ask into the microphone please. State your name so we can identify it.

LOUIE GENASSI, CHAIRMAN OF THE WATER RESOURCES BOARD FROM SIERRA COUNTY: I would like to ask Mr. Fairchild what provision is made for the development of the area around Loyalton on the Smith Neck Creek?

MR. FAIRCHILD: We estimated a cost of a reservoir on Smith Neck Creek at Loyalton, and we included that in the report there and I believe we call it Clover Valley Reservoir. The storage possibilities on Smith Neck Creek are extremely poor. The dam just practically has to be the whole reservoir. I believe we had a cost there of the water at that site of something over sixteen dollars an acre foot, and it seems it was such an extreme price for water in Sierra Valley that we didn't include it on this map. It looks like there would be possibilities in developing water from elsewhere that would be considerably cheaper than that for use in

Sierra Valley. We also considered, I might add, a reservoir in the vicinity of Sierraville which we call Randolph Reservoir which would have some merit. But we feel that at the present time that it would be better to construct one large Sheep Camp Reservoir instead of a Randolph Reservoir and smaller Sheep Camp Reservoir. That is something that would possibly require a little additional study, but that is the feeling at the present time.

ASSEMBLYMAN MCGEE: May I ask Mrs. Davis a question? You have in the valley two counties as I look at the map, Sierra and Plumas. In each of those county governments there is a water resources board?

ASSEMBLYMAN DAVIS: That is right, appointed by the board of supervisors.

ASSEMBLYMAN MCGEE: Do the two boards work closely together?

ASSEMBLYMAN DAVIS: Yes they do Mr. McGee. They are advisory to the board of supervisors.

ASSEMBLYMAN MCGEE: But to their own board of supervisors?

ASSEMBLYMAN DAVIS: Yes.

ASSEMBLYMAN MCGEE: Has there ever been an effort to formulate a basin wide irrigation district?

ASSEMBLYMAN DAVIS: There has been some discussion about it, but the answers have been pro and con Mr. McGee.

ASSEMBLYMAN MCGEE: I'm amazed to learn that there is no present irrigation district, and it would seem to me that certainly that in this day and age water rights are so important that the people of that entire Sierra Valley should first of all and immediately exhaust the possibilities of a water district, because as the testimony indicates they are presently relying upon court

decrees for sacredness of their water rights. As I understand my law, those court decreed water rights can be purchased and if they are something might happen to that valley comparable to what happened to the Owens River Valley.

ASSEMBLYMAN DAVIS: Well Mr. McGee, that is very true and I too feel that the people who are actually going to benefit from this water supply should consider the formation of a water district within that valley.

ASSEMBLYMAN McGEE: Is there a problem here or will there be of the counties or areas of origin just inter-county between these two counties because we are transferring water from one county to another and from one area to another?

ASSEMBLYMAN DAVIS: Well that is a question perhaps Mr. Fairchild could answer much better than I.

MR. FAIRCHILD: I didn't quite understand the question.

ASSEMBLYMAN McGEE: If you were to transfer water from the Grizzly Creek into the valley, some of that water would be utilized in Sierra County rather than where it originates in Plumas County and some of it would be diverted from an area of origin to another area of need. Does that bring into play the statute of the counties of origin?

MR. FAIRCHILD: I believe Mr. Banks or Mr. Jopson are far more qualified to answer that than I am.

MR. BANKS: The so-called County of Origin Act applies only where there are state filings involved. This is a horseback opinion as of the moment. I don't believe that that would come into this case as it now stands, because there are no state filings. The state filings on the Feather are considerably farther downstream.

ASSEMBLYMAN McGEE: Then this whole area is premised on court decreed water rather than claimed water in the --

MR. BANKS: There are some appropriative rights in here, true, I can't give you the exact extent of them but perhaps Mr. Jopson could. Primarily we are concerned here with decreed rights in Sierra Valley. Decreed rights to the natural stream flow as it exists now.

ASSEMBLYMAN McGEE: Do you know whether that is true also in the other valleys up above in the north branches of North Fork and its various branches?

MR. BANKS: The P.G. & E. may claim certain very old rights in addition to which they also have some more recent appropriative rights acquired under the provisions of the old Water Commission Act. I believe the rights to Indian Valley have been covered by court decree too.

ASSEMBLYMAN DAVIS: I have another question Mr. Chairman. Mr. Banks if this area is authorized as an overall state plan would it not be wise for the Division of Water Resources to recommend that the Department of Finance make appropriate filings on this surplus water here in order to safeguard this development?

MR. BANKS: Certainly Mrs. Davis we feel very strongly that there should be more definite protection afforded the areas of origin and I personally prefer to use the term areas rather than counties, it's a little more engineeringly feasible. Whether that is to be done under the Department of Finance filing procedure or whether under some other procedure will remain a question of time.

ASSEMBLYMAN McGEE: Then we have the same situation here

that we saw over in the Humboldt in Frank Belotti's area, the state has not made filings.

MR. BANKS: Allow me to clarify that just a little bit. The state has made filings on the Feather River, but those filings are largely for the benefit of proposed exportation.

ASSEMBLYMAN DAVIS: That's right.

MR. BANKS: The protection afforded the counties and areas of origin under those filings is a prohibition against assigning any portion of those applications or releasing from priority under them any waters which may be needed by the areas or counties of origin. In other words I don't believe there are any filings particularly for the benefit of this area.

ASSEMBLYMAN DAVIS: No, there not not, Mr. Banks.

ASSEMBLYMAN HANSEN: Well isn't it true too that there is an element of uncertainty in the whole county of origin theory of law at the present time due to the Rank versus Krug suit on the San Joaquin River?

MR. BANKS: That is a distinct possibility Mr. Hansen.

ASSEMBLYMAN DAVIS: So that actually Mr. Banks we might take into consideration exploring the possibilities of a better protection for this area by the Department of Finance making sufficient filings on the surplus water for some of the initial development. Is that not true?

MR. BANKS: Yes, that is the only mechanism available at the time which is not subject to the requirements of diligence.

ASSEMBLYMAN DAVIS: Would that recommendation to the Department of Finance come directly from your office, the State Division of Water Resources?

MR. BANKS: The Water Resources Board can make the recommendation or your committee or any agency as far as that is concerned.

ASSEMBLYMAN DAVIS: Then there's a good possibility that we should discuss this further and see which method might be used in order to protect this area until this county of origin statute is actually clarified?

MR. BANKS: Yes.

ASSEMBLYMAN HANSEN: I would like to make one other comment I think Mrs. Davis has overlooked. It's a sort of protection to everybody. It makes a lot of difference where you live on a river - whether you are up at the head of it or down on the lower end of it. Isn't that true Mr. Banks?

MR. BANKS: Yes there is a definite geographic advantage of having first crack at the water.

CHAIRMAN LINDSAY: Are there any further questions from the audience? Mr. Goss?

MR. JOE GOSS: Well while Mr. Fairchild is there I would like to ask him what effect the development of the Richfield Irrigation District power development on the Feather River has upon the ultimate development of the upper Sierra Valley area, and also what effect it would have if it was used instead of your state plan?

MR. FAIRCHILD: I should think it would have considerable effect if the waters of the Grizzly Creek and Little Last Chance Creek were conserved for power development down-stream. You couldn't use them in Sierra Valley too.

CHAIRMAN LINDSAY: In other words it would wipe out your

local development.

MR. FAIRCHILD: With existing water rights to the flow of the stream as you are now using it, I don't see how they can be tampered with in any way.

MR. GOSS: If that is true then the development above the Clio Dam would be out from there up. There would be no future development above the Clio Dam if the Clio Dam permit or license is granted for the Richfield project.

MR. BERRY: If this Richvale project went in, that is if they were granted a permit to pursue and construct and operate that project, essentially it would take the remaining unappropriated water above Clio and it could not then be available to local areas. I don't think there's any doubt about that.

CHAIRMAN LINDSAY: Now that would prevent the construction of the Meadow Valley Reservoir and power development that the state proposes, would it not?

MR. BERRY: It could not possibly be constructed under those circumstances.

CHAIRMAN LINDSAY: Under such an allocation we would be again assigning a large block of power potential to a local area that is actually needed for a state wide water plant.

MR. BERRY: The answer is probably yes.

ASSEMBLYMAN McGEE: Mr. Lindsay, who grants the permit? To whom is the permit made and who has the authority to grant it or deny it?

MR. BERRY: The application is made to the State Engineers of the Division of Water Resources and the administrative responsibility for making that or granting that application is the State

Engineer's. It's subject of course to court review.

ASSEMBLYMAN MCGEE: Is there also an application to the Federal Power Commission for a permit?

MR. BERRY: Yes.

ASSEMBLYMAN MCGEE: As part of that project?

MR. BERRY: That's correct.

CHAIRMAN LINDSAY: Now just what about this little Oregon decision of the United States Supreme Court where if a federal power permit is granted they are not subject to state water law anymore?

MR. BERRY: I'm not qualified to talk on that one. I don't think anybody else is here either.

CHAIRMAN LINDSAY: But we should point out to the people of the local area here that such a ruling has just been handed down by the United States Supreme Court. That is true isn't it?

MR. BERRY: Yes sir.

ASSEMBLYMAN DAVIS: Mr. Chairman, perhaps Mr. Murphy can enlighten us on the legal aspects of that decision which was made not too long ago.

GEORGE MURPHY, LEGISLATIVE COUNSEL: I believe, generally speaking, the effect of the Federal Power Commission for the State of Oregon case, recently, was to extend the right of the United States over water to all reserved lands, as distinguished from lands which are in public domain. Prior to this time it was generally understood that the water rights were according to state law in all reserved lands and all lands of public domain. This last case that just recently came down from the Supreme Court removed from the jurisdiction of the state the water law with respect for reserved lands. As to acreage, as I understand it, there's

something like forty five million acres of land in public ownership, United States ownership in the state. This would remove some thirty million acres of that land.

CHAIRMAN LINDSAY: You're speaking of U.S. Forest Service lands?

MR. MURPHY: All reserved lands. Lands under first form withdrawal under reclamation law and that includes all of Feather River project lands, I believe they are in the first forms of withdrawal now, all the Federal Power Commission withdrawals, all forest lands and all the public domain lands are those lands which are open entry.

CHAIRMAN LINDSAY: May I ask one more question? Mr. Murphy, then if Richvale irrigation has filed for a Federal power permit it would certainly behoove these counties up here to protest that and be heard or they may lose it by default.

MR. MURPHY: I might clarify that a little bit by saying the Federal Power Act provides that nothing in the Act is construed as affecting or intending to affect in any way or interfere with the laws of the respective states relating to control, appropriation, use or distribution of water used in irrigation or from municipal or other uses or any invested right acquired therein. Now that would seem to say that you have to follow the state law. It's been interpreted by the Supreme Court as meaning that the applicant must give satisfactory evidence that he has complied with the state law. And what constitutes satisfactory evidence depends upon what the power commission may determine it to be. In the case of this Oregon power case they did not have a state permit and the Supreme Court said we could go ahead without regard to the state permit.

ASSEMBLYMAN DAVIS: I would like to make one statement that I believe the people in Sierra Valley should certainly protest immediately if they have not.

MR. BERRY: Mr. Chairman, I would like to clarify for the record if I may what this report on the Upper Feather River service area does contain in the way of these measurements of water requirements. I feel that that is not clear. The measure of the requirements for this Upper Feather River service area is in what we have termed consumptive water requirements, and these are measures as applied to these hydrographic units that Mr. Shannon described. It is in effect the amount of water that must be developed or diverted from a stream or otherwise furnished each one of these hydrographic units to meet the consumptive requirements within that area. I don't know whether that has clarified the situation or not. That's the measure of these requirements that we have given in this report. This means that this consumptive water requirement is the amount of water that will have to be developed for a given hydrographic unit or service area.

CHELLIS CARPENTER, PRESIDENT OF THE PORTOLA CHAMBER OF COMMERCE: The question occurs to me if in filing a protest to the applications made by the Richfield Irrigation District before both the Federal Power Commission and the State Water Resources Board it would be necessary to make much preparation for the purpose of establishing a legitimate protest. Do you recommend that a water engineer be employed by any district that might be organized for the purpose of doing that? Do you think that it would be essential and if so about what amount of initial money would be required to actually make a proper fight?

ASSEMBLYMAN MCGEE: Seems to me that the answer to your question lies in this. That the first thing you ought to do is form a water district and hire a lawyer to do it for you and then to represent you. I say that because you have lawyers down in the irrigation district who are trying to take your water. So in self defense it seems to me you should follow Mrs. Davis' recommendation and first of all form a local water district here and then the board of directors of that water district would decide how much and how to oppose the application for the permit.

MR. BERRY: I'll put in a plug for the engineering profession and I'm sure that if this district is going to operate it will need an engineer.

CHAIRMAN LINDSAY: Mr. Berry put in a plug for an engineer. He said they had to have one if they are going to operate. In the meantime their board of supervisors are legal entities and can file a protest, and give yourself a little time to get going.

MR. HANSEN: I'll put in a plug for the lawyers. I spent seventeen years on the board of one of the biggest irrigation districts in this state and we never hired any bad lawyers, we hired good ones. If you just get mixed up in a real first class law suit on water you'll find out nothing but the best pays.

CHAIRMAN LINDSAY: Are there any other questions of the state people? If not we have some other witnesses we would like to call. And first because he must leave for a long trip, I'm going to ask Professor Keim if he has any presentation he'd like to make here. Professor Keim is a consultant to the Joint Committee on Water Problems.

ASSEMBLYMAN DAVIS: Mr. Chairman, before the Professor

begins his presentation there is one further question that I would like to ask of Mr. Berry. If the state made filing on the surplus waters here for this initial step of development in upper service area would they hold a priority over the Richvale Irrigation Districts application?

MR. BERRY: No, they wouldn't. The priority would date from the time those filings were made and as I understand it the Richvale filings have been made already in the past.

ASSEMBLYMAN DAVIS: If you made application on this water then would you in turn file a protest also on the Richvale Irrigation Districts filing as in the interest of the state?

MR. BERRY: You mean of the regional water resources -

ASSEMBLYMAN DAVIS: Right.

MR. BERRY: Of the state engineers?

ASSEMBLYMAN DAVIS: Right. Would you be in that position to do so?

MR. BERRY: I don't believe we would be in a position to protest, no.

ASSEMBLYMAN DAVIS: Thank you.

MR. BANKS: With respect to the position that the people up here might take in this, their position would have to be made in the public interest under the sections of the code which would permit the state engineers office to render decision in the public interest, and their pitch, if I may use the vernacular, would have to be made along that line.

ASSEMBLYMAN DAVIS: Would you say that at the present time the board of supervisors of that respective area has the privilege of filing this protest until these people can decide what they want

to do?

MR. BANKS: As a matter of fact it wouldn't even be necessary for them to file a protest. They should be prepared, however, at the time the hearings are held on these applications to present their case in the public interest.

ASSEMBLYMAN DAVIS: Now you're speaking of the board of supervisors.

MR. BANKS: Board of supervisors or a district or whatever legal entity might represent these people.

ASSEMBLYMAN DAVIS: That's right, but there certainly would be no harm in the board of supervisors filing a protest at this time and preparing themselves to make a presentation relative to this filing when that case comes up. Is that right?

MR. BANKS: Yes, that is correct.

MURRAY MACKALL, EXECUTIVE SECRETARY OF THE JOINT COMMITTEE ON WATER PROBLEMS: Mr. Chairman might I make a statement please in connection with the testimony of Professor Keim.

CHAIRMAN LINDSAY: Mr. Mackall.

MR. MACKALL: First of all I would like to say this, at the request of the chairman of the joint committee on water problems, Senator J. Howard Williams, Mr. Murphy was requested to make an analysis of the decision in the case of the Federal Power Commission versus the State of Oregon and such an opinion was rendered on November the 3rd, 1955 by Mr. Murphy from which he read some extracts. I think that this should be incorporated in the record of this meeting and I'd like to present it for that purpose at this time. (See Exhibit A)

CHAIRMAN LINDSAY: Thank you very much Mr. Mackall.

MR. MACKALL: I might state, in connection with the report that will be presented by Professor Keim, there was at the last session of the legislature an appropriation of two hundred and fifty thousand dollars made under Senate Concurrent Resolution No. 42 presented by Senator Paul Byrne who is present here today. The two hundred and fifty thousand dollar appropriation was made and it was turned over to the joint committee on water problems for the purpose of making a check of financial feasibility of the main Feather River Project. Thereafter an agreement was entered into for a check on economic feasibility of that project with the Bechtel Corporation. It appeared to the members of the Joint Committee on Water Problems that some similar information should be obtained as to the economic and financial feasibility of the state engineer on the Upper Feather River Service area in connection with his report rendered in April 1955 of this year. As a result of that I was authorized to retain in behalf of the joint committee on water problems the service of Professor Keim of the College of Engineering of the University of California. Within the extent of the limited time available and the limited funds which we had on the joint committee on water problems, such a study was undertaken.

The Professor is present here. He has not had sufficient time to complete the report and I would like to have the opportunity for him to present a progress report on his investigations on the natural feasibility of the project set forth in the Upper Feather River Service Area Report at this time. I would also like to have made a part of the record of this proceeding, by reference, the 1955 report of the state engineer. It's entitled .. "Program for Financing a Construction of Feather River Project as to Initial Unit

of the California Water Plan," likewise I would like to have it incorporated, by reference, this report on the Upper Feather River Service area.

CHAIRMAN LINDSAY: Thank you Mr. Mackall.

PROFESSOR PAUL KEIM, COLLEGE OF ENGINEERING, UNIVERSITY OF CALIFORNIA: Members of the Legislature, ladies and gentlemen of the Upper Feather River service area. "This preliminary statement on the aspects of the study of the Upper Feather River Service Area is submitted as of this date, in accordance with a verbal agreement with Mr. Murray M. Mackall, your Executive Secretary.

My delegation as a special consultant to the Committee states that I have been "retained to make a financial feasibility survey of the projects outlined in the Upper Feather River Service Area Report of the Division of Water Resources of the Department of Public Works."

In accepting this delegation it appeared to me that there were three parts to the problem. These were more or less established in discussion with Mr. Mackall in advance of beginning a study of the problem. These three parts are:

- (A) To ascertain whether or not a financial feasibility determination can be made on the basis of an analysis of existing data in the Upper Feather River Service Area report.
- (B) If the answer to (A) proves to be negative, what surveys and studies would be necessary in order to make a financial feasibility determination possible.
- (C) What needs to be done, if anything, in the study of the Upper Feather Service Area to bring its requirements into the proper focus for use in the economic feasibility analysis of the "Program for Financing and Constructing the Feather River Project as the Initial Unit of the California Water Plan" which other consultants are now considering.

Thus far in the time available (1) the two reports on the "Upper Feather River Service Area" and "Financing and Constructing the Feather River Project," hereinafter referred to as Report (A) and Report (B) respectively, have been read, (2) the genesis and purpose of Report (a) as the office of the State Engineer understood the legislative delegation to them, has been thoroughly discussed with the engineers who did the work and who are continuing with the survey for the remainder of the Northeastern Counties report, (3) other pertinent data supplementing Report (A) on soils, water uses, water needs and basin characteristics have been made available to me through the Division of Water Resources, (4) discussions have been had with several consulting engineers who are familiar with the Feather River and I have talked with some land holders and business men connected with the area and (5) arrangements have been made to accompany the sub-committee of the Joint Committee on Water Problems during a portion of their trip which takes them through the Upper Feather River Area on November 5, 6 and 7, with meetings at Susanville and Portola.

It is necessary to approach every problem with the idea of bringing every possible bit of data and information to bear upon it which could affect the analysis of and conclusions about the project. Finding, collecting and/or reading the available data is now in progress and the trip through portions of the Upper Basin will assist in formulating a background for evaluation not only of available data but for determining what other information may be necessary and desirable to obtain.

Philosophically it is assumed that the ultimate aim of the development of natural resources, in common with all productive

activity, is to satisfy human need and desires. To this end an economic approach to the development of a river basin is to provide a basis which can ultimately be used to arrange for the construction of the projects included in the development in the order of their economic desirability. In a great measure the order in which the projects of a plan are arranged for construction should bear some relationship to their relative efficiency in the use of natural resources without prejudicing the continuing development of the basin to its ultimate practical limits in accordance with the accepted plan.

Likewise the viewpoint from which the project is evaluated is of fundamental importance in making a financial feasibility analysis. A limited view of its effects, such as one community evaluating only the beneficial and detrimental effects of the project upon itself, is obviously inadequate for public works projects. It follows then that each basin must be analyzed from the viewpoint of all possible users and the development recommended should be the one which has the greatest benefit to the greatest number. That there are differences in viewpoint should be kept clearly in mind in any evaluation of the tremendous program of water resource development which California must undertake in the immediate future. A complete plan then is indicated for all water sources in the state for integrated developments within themselves as well as being coordinated with other source development plans, if there is to be water enough for all, as now seems possible.

Against the above, and because the purpose of making Report (A) was only to give a factual report upon the potential uses of water in the upper basin without consideration of the possibility of developing water for the several purposes, it is not possible

to make a financial feasibility survey of the projects outline in Report (A). In fact the report is adequate for the original purpose, but for a determination of the feasibility of upper river service area projects additional facts must be determined. What additional data may be found to be available from other sources is not yet known and consequently what additional data may be needed awaits further investigation of sources, which is now in progress.

Likewise some further study is necessary and is currently being made of the relation of feasibility in the upper basin, Report (A), and the feasibility of the projects Report (B). Thus far it seems that the water uses set forth by Report (A) for the development of the area are the maximum which could be expected except for the uses occasioned by a slightly larger increase in population in the area than were used in the report. This however would be small and in any case it could be offset by the fact that the development of a water supply for certain areas which are included in the gross future requirement determination might not be physically or economically possible. On the other hand, due to the growing pressure for recreational areas in the state the upper River Service Area may be better developed for that purpose than for extended cultivation type of agriculture.

The final report, conclusions and recommendations as required by the premises set forth as in items (A) (B) and (C) above will be completed in approximately six weeks."

ASSEMBLYMAN DAVIS: Professor Keim are you saying that we need additional engineering data before we can go into the financial feasibility of these recommended projects?

PROFESSOR KEIM: This is my judgement, Mrs. Davis, not only

engineering but legal and financial. I think that it's a problem which needs to be brought into focus in the whole development of the state and these things are financial, legal and engineering.

ASSEMBLYMAN PORTER: Professor, when you do have time to complete your studies will you recommend on various parts of the upper Feather River?

PROFESSOR KEIM: I will recommend a direction which I believe should be taken for the further analysis of the Upper Feather River service area. It will have to be in those three phases - engineering, economics, and legal. And I think those things need to be investigated.

ASSEMBLYMAN PORTER: As I toured the area yesterday, there were various benefits quoted from a certain reservoir or project. There would be various costs quoted to us and some of those might be more financially feasible than others. Would that be your recommendation finally?

PROFESSOR KEIM: No. It would not. I will not go into detail because the reason I cannot make a financial feasibility study of the upper service basin is that there is not enough individual data known about individual projects. Therefore the whole must await my judgment, many of the things we have been talking about this morning.

ASSEMBLYMAN DAVIS: Then the next necessary step Professor might be the authorization of this entire upper service area as a part of the over-all state plan and then we could go ahead with furtherance of facts for these recommended projects.

PROFESSOR KEIM: I believe this, Mrs. Davis, that before any project is authorized in a service area you must have the over-all analysis of the whole basin as it applies to an integrated

program of the state.

ASSEMBLYMAN DAVIS: You recognize the fact that in the year of 1951 the State Legislature authorized the construction of the Feather River Dam, don't you?

PROFESSOR KEIM: Yes.

ASSEMBLYMAN DAVIS: Would you recommend that such legislation be introduced for the authorization of this entire basin as a unit of the Feather River Project?

PROFESSOR KEIM: I would say this Mrs. Davis. The up-shot of it is that in the Feather River plan, as now conceived as the first unit of the basin development, there are only three or four or five of these upper basin projects included with some more specific determination of the characteristics of each dam. Now, it's my opinion that the overall plan for the developments of water available in California would seem to me to justify a further and complete study of all the possibilities of the Upper Feather River service area before these larger projects were begun and completed. To try to divorce the upper river from the Oroville project or to divorce the whole Feather River basin from the rest of the state's as far as water resources is concerned, is not to me in the best interest of the state.

ASSEMBLYMAN DAVIS: Then it seems to me the best interest of the state would be for it to be made a part of the over-all plan and it is not that at this time.

PROFESSOR KEIM: I would say that anything that is done in California should be done, in relation to, an overall plan of the development of the water resources of California.

CHAIRMAN LINDSAY: Thank you. Before we go on asking for

local comment we want to submit to the local people one further review. I would like to introduce to you Mr. Charles Weber who by special authorization of the legislature has been doing a report financed by the Weber Foundation. Mr. Stubblefield, his consultant and engineer, has considerable data on this upper Feather River area, which I believe to be of interest to the local people. Charles, I think we should make this available to the people.

MR. WEBER: Gentlemen, last week I stated some criteria which would be guides to the broad development of our resources in this state. These criteria as well as recommendations are contained in a pamphlet which is available to this committee and to the people in the audience. We made certain recommendations to the committee and to the legislature. We feel that we are a part of the legislative process by the resolutions which authorize our power and duty and that power is within the scope of our duties to make definite recommendations to the legislature. As a result we make the following recommendations. Selecting certain recommendations which will be embodied in our report, we recommend first that the requirement and projects necessary to the full development of the watershed regions such as the Feather River region and the American River region, being embodied respectfully by legislative enactment in a so-called Feather River project, American River Project and other similarly named projects. Second - that all the reservoirs necessary to the major development of the regions and the state be purchased by the state as rapidly as possible for the reservation by the state or for contributions to the federal or local projects title remaining in the state. In commenting on such a policy to be adopted by the state we call your attention to the advantages

which can be shown as a result of the discussions here today. It is within the sovereign power of the state and constitution that the waters of the state are held in trust for the benefit of the public for the best uses of it's population. Consequently we have a whole line of law in appropriations and we have a recognition of the rights of the people to riparian waters that flow past their lands. But the state, while attempting by a procedure under the codes to protect the water rights for the public, and to seek the best uses of it, has never had a policy of conserving the basins and reservoirs in which they must be stored. The duties of the state go beyond the question of the appropriations to individuals and rather small areas. It goes to the question of the conservation of the surplus waters that are in any of the regions in a state, and therefore the control and storage of those waters must be embodied in state policy and legislative policy.

We can only point out to you that many of the discussions here today or a great portion of the discussions and conflicts in law would be eliminated if the state owned the reservoir sites. But then the question of due diligence in the use of water would be minimized by the fact that the man who owns the reservoir controls the resources and the distribution of it. There might be certain conflicts such as conflict between the development of power and the required reservoir below in the lower areas, and the question of the storage of water in the upper areas for other beneficial uses. In the long run most of the conflict and trouble would be eliminated if the state possessed the reservoirs. I think that would be on solution. Then certain reservoir sites are studied as to physical feasibility the one solution to the questions in the upper area -

for example in the Sierra Valley.

Now my third recommendation is that in order to accomplish this program as rapidly as possible and in order to give the widest benefits to the public the area surrounding the beds of the reservoirs and the beds of the reservoirs themselves should be considered as recreational areas, should be so declared by the State Beachs and Parks Board, and should be immediately purchased using the oil royalty funds set up by the legislature for this purpose. The San Luis Reservoir of the Trinity River Reservoir, or the Iron Canyon Reservoir, and the Oroville Reservoir on the Feather River should be purchased immediately by this method. This is an example of coordinated planning and multiple use in public words development.

Four - that any water resources board be lifted to a higher and broader level to function as a resource and public works advisory coordinating planning body, and that local conservation and public works planning be coordinated at local levels by city, county and area planning boards with the aid of a state advisory committee on local planning in the liaison with the resource and public works board under the Conservation and Planning Act Title 7. In commenting on this matter in reference to the discussions here today, I call to your attention what recourse is available under entirely different line of them all. It is possible for the local resource committees working under the board of supervisors, to refer to the county planning commission their findings in regard to a master plan for the conservation of waters in the cause of the general welfare of the area. In this way the conflicts that naturally arise in all argument affairs are eliminated primarily at the local level. As I look at this plan there is a basis of such a master plan and

it is available to you people today. If such a plan were adopted by the county board of supervisors in the cause of the general welfare it implants in public policy a recognition that no area should be destroyed by bad planning or by superior powers in local or in state government. The whole principle of the planning act is to coordinate the regional plans, the county plans and the city plans, it's all in the code.

The first part devoted to regional planning states that the State Conservation and Planning Board which doesn't exist and which I'd rather call a Resource and Public Works Board, divide the state into regional planning districts, just for planning. These are all advisory matters, until they are acted upon by the local legislative authorities and by the state legislature. The natural physiographical divisions containing complete water-sheds of the major stream systems and the land upon which the waters of such water-sheds are put to beneficial use. Areas having mutual, social and commercial interest as exemplified by radiating and connecting routes of transportation by trade, and by common use of recreational areas within the region.

I would like to introduce Mr. Garfield Stubblefield, Consulting Engineer, who has specialized in hydraulic engineering for the past fifty years. Mr. Stubblefield has been chief of the combined Canal, Dam and Hydrology sections of the Bureau of Reclamation, and since his retirement from the Federal service has been a special consultant to the Bureau of Reclamation, as well as to many private concerns. He has also made studies for the development of the water resources in the Upper Feather River areas. We are indebted to him for the studies on water resources and

utilization, and the plan for basic development which appear in the U.S. Senate document entitled "The Central Valley Basin." Mr. Stubblefield would you read a digest of your report of the Upper Feather River water.

MR. GARFIELD STUBBLEFIELD, CONSULTING ENGINEER: I have made a review of eight of the proposed state upper river service area projects and I'll read from a paper that will be available to all of you, the printed paper will be available to all of you. Three Sierra Valley Reservoir projects, the Upper Indian - three Upper Indian Creek drainage area reservoir projects and two upper power and irrigation projects are herein briefly described and discussed. These and other projects are set forth in the April 1955 report on the Upper Feather River service area by the State of California Division of Water Resources. The description and discussion of these projects are based upon data from the Division of Water Resources Report.

Sierra Valley Reservoirs - It is tentatively assumed that all three of the Sierra Valley Reservoirs -- Grizzly Valley, Frenchman and Sheep Camp -- will be used for an irrigation water supply, with a combined annual yield of about 98,000 acre-feet and a combined storage capacity of 169,000 acre feet. The total capital cost for these projects was estimated, that is by the state, at \$4,948,000, and the annual cost \$332,000, based upon 3-1/2% interest and 50 year repayment. If the interest cost could be reduced to 2-1/2%, possibly by including the project as an integral part of the Feather River Project, the annual cost would be reduced to about \$296,000. I have estimated that evaporation from the reservoirs, and other new consumptive uses would reduce the outflow

from Sierra Valley by an annual average of about 50,000 acre-feet. Brief descriptions of these projects are given in attached Appendix A.

Upper Indian Creek Drainage Area Reservoirs - The Antelope Valley, Dixie Refuge and Abbey Bridge Reservoirs, in the upper Indian Creek drainage area would be chiefly used to supply water in the interests of fish, wildlife and recreation. The combined capacity of these reservoirs would be about 41,000 acre-feet, and the combined annual yield about 21,000 acre-feet. The estimated capital cost of \$1,516,000, with 3-1/2% interest and repayment in 50 years, would result in an annual cost of \$75,000. On the basis of 2 1/2% interest the annual cost would be approximately \$64,000. The contemplated water use would result in a minor benefit to downstream power plants. Project descriptions are in attached Appendix A.

Meadow Valley and Indian Falls Projects - These projects would have combined reservoir capacities of 1,069,000 acre feet and a combined yield of about 574,000 acre feet. Tentative allocations of 42,000 acre feet for irrigation, 26,500 acre feet for fish, wildlife and recreation, and 505,500 acre feet for power production were made. The Meadow Valley and Indian Falls power plants would have installed capacities of 125,000 and 25,000 kilowatts, respectively. The annual firm energy output of these plants was estimated at 460,000,000 and 50,000,000 kilowatt-hours, respectively. About 516,000,000 kilowatt-hours of firm energy would be produced annually from the Rock Creek, Cresta and Poe power plants of the Pacific Gas and Electric Company by reason of new water from the Meadow Valley and Indian Falls power plants. The combined capital cost of the Meadow Valley and Indian Falls projects as estimated amounts to

\$111,104,000, and the annual cost, with interest at 3-1/2% and amortization in 50 years, amounts to \$5,431,000. If the interest cost could be reduced to 2-1/2% possibly by inclusion in the Feather River Project, the annual cost would be reduced to about \$4,612,000. The annual revenues from power revenues would amount to approximately \$5,026,000 from the Meadow Valley Project and \$1,075,000 from the Indian Falls Project -- a total of \$6,101,000.

The foregoing revenue estimates, from the Division of Water Resources Report on Upper Feather River Service Area, were based upon rates of \$22.00 per kilowatt year plus 2.8 mills per kilowatt hour for project plants.

Power revenue rates of \$21.00 per kilowatt year and 2.75 mills per kilowatt hour were used in computing revenues from the Oroville Power Plant, as given in the "Program for Financing and Constructing the Feather River Project as the Initial Unit of the California Water Plan", dated February 1955. Use of these rates for the Meadow Valley and Indian Valley Falls power plants would reduce their estimated annual revenues from \$6,001,000 to about \$5,925,000.

The Meadow Valley and Indian Falls Project reservoirs would evacuate (by release and evaporation) about 930,000 acre-feet of water in excess of the flow into them during such a period as that extending from June 1, 1928 to January 1, 1935. This volume of water would be largely conserved from inflows in 1927 and 1928 which would have bypassed the Oroville Power Plant turbines, and would have wasted to the ocean. Reservoir evaporation and other new consumptive uses from the Meadow Valley and Indian Falls projects would have probably totaled about 280,000 acre-feet during that

dry period.

These streamflow depletions and the depletions due to the other projects being herein considered might make a combined total of 600,000 acre-feet of reduction from present conditions. Full allowance for such depletions has apparently been made in estimating energy output of Meadow Valley and Indian Falls projects, and a portion, if not all of such depletions, appears to have been made for the Oroville Reservoir operation studies presented in the aforementioned Feather River Project document. However, in estimating conservatively the benefits to power development at the Oroville Power plant, an additional depletion of streamflows for upstream use of 300,000 acre-feet over that allowed in the Feather River report is herein assumed to be made from the 930,000 acre-feet of carry-over storage into the 1928-34 period. This would leave a net increase of 630,000 acre-feet of inflow to Oroville Reservoir. During the 1930 water year of that period, the Meadow Valley and Indian Falls project reservoirs would have stored some 400,000 acre-feet of water that was used for secondary power production and wasted to the ocean, as indicated in the Appendix E operation study for the Feather River Project. The release of this volume of water in subsequent years, together with water carried over from June 1928, would make it possible to provide adequate power head and electric energy for an additional 15,000 kilowatts of dependable generating capacity at the Oroville Power Plant by lessening secondary energy and increasing firm energy output. The gross additional annual energy output would be limited to about 20,000,000 kilowatt hours per year. With power revenue at \$21.00 per kilowatt year, plus 2.75 mills per kilowatt hour, the annual total increase in Oroville

Power Plant revenue would amount to about $15,000 \times \$21.00$ plus $20,000 \times \$0.00275 = \$315,000$ plus \$55,000, or a total of \$370,000.

Adding the increased revenue for the Oroville Power Plant to the revised estimate of revenues of \$5,925,000 from the Meadow Valley and Indian Falls power plants results in a total of \$6,295,000. On the basis of 2-1/2% interest cost and repayment in 50 years, the annual cost of these power plants would be about \$4,612,000, and a net revenue of \$1,683,000 would be indicated for these projects, that is from power revenues. The estimated corresponding annual costs for the three Sierra Valley Reservoirs and the three Upper Indian Creek drainage area reservoirs are respectively \$296,000 and \$64,000, or a total of \$360,000. Adding this amount to the \$4,612,000 annual cost for the Meadow Valley and Indian Falls projects results in a total of \$4,972,000. The power revenue of \$6,295,000 from the Meadow Valley and Indian Falls projects would exceed the annual cost of the eight projects by \$1,323,000. Total net revenues would be increased by net revenue from the sale of water. An irrigation yield of 144,000 acre-feet was allocated to the Upper Feather River Service Area. During such a critically dry period as that from June 1928 through December 1934, a volume of more than 1,000,000 acre-feet (about 147,000 acre-feet per year) of regulated flow would be made available for use below Oroville in excess of quantities as given in the operation in Appendix 1 of the aforementioned Feather River Project Report. The combined annual volume of 291,000 acre-feet of new water for areas above and below Oroville reservoir would be worth \$873,000 at a rate of \$3.00 per acre-foot. Such a value, plus the estimated net return of \$1,323,000 from power revenues, would amount to \$2,196,000 per year,

upon a total capital cost of \$117,568,000, that is, in excess of the repayments, interests or payments and other annual costs.

On the basis of the above analysis of the potential feasibility of the Upper Feather River projects, it appears that it would be desirable to include these upper projects as an integral part of the initial Feather River Project -- possibly as an initial feature of that project.

CHAIRMAN LINDSAY: Mr. Stubblefield, from your analysis then, we are being told that if all of these projects were constructed by the state in Sierra Valley, including the Sheep Camp Reservoir, the two power projects here would return more than a million three hundred thousand dollars a year in excess of the entire cost each year of paying off the debt of constructing the project.

MR. STUBBLEFIELD: All late projects that I have mentioned.

CHAIRMAN LINDSAY: That should be very encouraging to the local people of these two counties.

MR. WEBER: Mr. Chairman I would like to say this - possibly the local people would contribute through construction of certain works to the whole system that might not be amortized by the main system.

CHAIRMAN LINDSAY: Mr. Stubblefield, you are recommending that these projects be integrated into the main project on the Feather at this time so that you could take advantage of approximately one percent decrease in interest rate?

MR. STUBBLEFIELD: I am. That one percent decrease in interest rate combined with the retirement would be only about three quarter percent difference than the over-all annual cost.

CHAIRMAN LINDSAY: But that would make these show a profit,

wouldn't it?

MR. STUBBLEFIELD: That would make these show a much better profit than could be shown without that advantage.

CHAIRMAN LINDSAY: In your opinion then, and from your analysis, the projects outlined are feasible?

MR. STUBBLEFIELD: Basing my judgment on the estimates prepared by the State Division of Water Resources, I should like to add one or two things to clarify my basis for approving these projects. In 1934 or 1935 I made a study for the United States Department of Agriculture for the possibilities of power production on the Middle Fork of the Feather River and at the same time reviewed some of the possibilities on the North Fork of the Feather River, and on the basis of my study at that time, and the basis of my studies with the Bureau of Reclamation during the period of 1941 and 1953, I believe that the State projects are probably the most feasible projects in the upper area of the Feather River Basin.

CHAIRMAN LINDSAY: Are there any questions to Mr. Stubblefield? If not, we thank you very much for both of your contributions to the hearing. I'll call the Plumas County Water Resources Board at this time, Mr. Goss. He's also speaking for the Plumas County Board of Supervisors.

MR. GOSS: Mr. Chairman and members of the legislature. I was instructed to tell you today that the Plumas County Resources Board at one time requested the Director of Finance to hold seven hundred and fifty thousand acre-feet of water for the Plumas County Development until such a time that it could make a study of its water needs. We wanted to have a study of our own at the same time and the Director of Finance acknowledged that he would hold these

filings for us till that time. We did have our private study made by the firm of Carroll E. Bradberry & Associates of Los Altos and they have come up with a consumptive use of about three hundred and twenty thousand acre feet of water for the Plumas County part of their survey. This survey was made in connection with Sierra County. Both the Boards of Supervisors authorized a survey together, and I am speaking for the Plumas County part of this study and the Plumas County Board of Supervisors has instructed me to give you this copy of this survey and have it incorporated (by reference) in the minutes of this hearing. It would be their request that this Upper Feather River basin in Plumas County be a part of the unit of the Feather River project development.

CHAIRMAN LINDSAY: Are there any questions of Mr. Goss?

ASSEMBLYMAN PORTER: You said that the results of your survey showed some three hundred and twenty thousand acre feet of consumptive use of the valley?

MR. GOSS: Yes sir, I believe it would be estimated to be at three hundred thousand acre feet.

ASSEMBLYMAN PORTER: My question is how does that figure compare with the figures in the other reports that you have before you?

MR. GOSS: I believe the other report was three hundred and twenty-six thousand acre feet.

ASSEMBLYMAN PORTER: Oh, it's very near the same.

MR. GOSS: Both reports were very close.

ASSEMBLYMAN PORTER: Good. Thank you.

CHAIRMAN LINDSAY: Are there any further questions? Mr. Goss, are you satisfied with the State's report, then?

MR. GOSS: We are very well satisfied inasmuch as it came very close to ours and we haven't too much fault to find with this report.

CHAIRMAN LINDSAY: Thank you very much. Is Mr. Genassi to speak for the Sierra County Board of Supervisors and Water Resources Board? Mr. Louis Genassi.

MR. LOUIS GENASSI, CHAIRMAN OF THE SIERRA COUNTY WATER RESOURCES BOARD OF THE SIERRA COUNTY BOARD OF SUPERVISORS: I have been authorized to speak for the Sierra County Board of Supervisors. I'm Chairman of the local Sierra County Water Resources Board of the Sierra County Board of Supervisors. We feel that the development of the entire Upper Feather River basin should be integrated as part of the Feather River project. We concur with the findings and recommendations of the Division of Water Resources as well as the Bradbury and Associates report on our land classifications and water needs as set forth in that report. We in the eastern part of Sierra County would like a little more investigation by the Division of Water Resources as to the possibility of developing more local water there - both from a further-up-stream basis, or import basis. I think that is about our position in Sierra County.

CHAIRMAN LINDSAY: You're asking for more work then in back of Loyalton, to pinpoint it?

MR. GENASSI: Right. We feel that the area in back of Loyalton, due to the fact they do not have adequate feasible dam sites, should be studied a little further.

ASSEMBLYMAN MCGEE: When the Water Projects Authority applied to the Department of Finance for assignments, your board protested those assignments. Then Mr. Edmonston in July of 1954

wrote you a letter, Mr. Genassi, wherein he set forth answers to your questions. Were the Bradbury reports you refer to made after that or before?

MR. GENASSI: I believe they were made after that.

ASSEMBLYMAN McGEE: You're satisfied then with the contents of that letter from Mr. Edmondston to you, and the report later by the Bradford people?

MR. GENASSI: As far as our ultimate requirements and land use classifications are concerned.

ASSEMBLYMAN McGEE: Is it your position still to want to protest against the assignment of the filings? The report indicates that the Plumas County Water Resources Board, Sierra County Water Resources Board, the Lassen County Water Resources Board, the Sierra Valley Soil Conservation District, Plumas County Board of Supervisors and the Oroville Wyandotte Irrigation Districts protested the granting of those assignments, or the assignment of those filings. Has that position changed?

MR. GENASSI: I think until such a time as our part in Sierra County is integrated and we know exactly where we stand, I think we will still have to stand on that protest through the transfer of the filing.

ASSEMBLYMAN DAVIS: Mr. Chairman, I might enlighten Mr. McGee. I'm sure that Mr. John Peirce, the Director of the Department of Finance, will not object to my making this statement. I had a conversation with him the other day and he once again assured me that these filings he was holding would not be transferred to the Water Project Authority until the county of origin problem was once and for all clarified and I do feel that the people here in

in this area still stand on the same basis and opinion as they have some time ago. Until all these questions are solved they will still protest the transfer of those filings to the Water Project Authority for the furtherance of the Feather River Dam.

ASSEMBLYMAN MCGEE: Those are the filings down at the dam?

ASSEMBLYMAN DAVIS: That's right. Three of them.

ASSEMBLYMAN MCGEE: Because they are not up here.

ASSEMBLYMAN DAVIS: That's right.

MR. GOSS: I believe that the Plumas County Board of Supervisors and Water Resources Board also would protest the transfer of these filings at this time. By having our study made we won't change our opinion until we really know where the people of Plumas County are going to be - what position they are going to be in when these filings are transferred. We had this letter just recently from the Director of Finance indicating that he will still hold these filings until these people in this Upper basin were satisfied, or at least the county of origin was clarified to satisfy him that a fair distribution of water was being made.

CHAIRMAN LINDSAY: What you are asking for then is that these filing transfers be held up until there is a complete clarification of your position and you know where you stand and can approve of it.

MR. GOSS: That's right.

ASSEMBLYMAN DAVIS: The Director of Finance has so assured us Mr. Lindsay, that he would not transfer these filings until this county of origin question was settled by the State Legislature.

CHAIRMAN LINDSAY: Are there any further questions? Thank you very much gentlemen, at least we have made some progress. Our

state recommendations and your own consultants' recommendations are very close. Mr. Barron of the Lassen County Water Resources Board.

MR. REED BARRON, CHAIRMAN LASSEN COUNTY WATER RESOURCES BOARD: Members of the Legislature and ladies and gentlemen. There is one thing that we should clear up immediately, and that is apparently the only water that could get away from us would be through the Pitt River. We think the water that is down through Almanor is away from us and the Pitt River Water would be taken care of through fillings that are already made on the Allen Camp dam site. We do go along with the idea that the areas of origin, with the benefit of ultimate future development from whatever water might be in our areas, should be adhered to. Certainly the state of California must recognize the need for a water plan. It needs to get that plan and it needs to work that plan. There are a few simple fundamentals that as a farmer I believe should be called to everyone's attention. There are fundamentals and natural facts that come first. I think the area of origin with ultimate development is that first fact. Water percolating down from upper areas, whether it's reservoirs or lakes, should be protected and taken care of on it's down hill run. If water will not run out of a lake at a high elevation I think it's dangerous to tap it in most cases. If you do tap it, it should be controlled. I think power and water should certainly be left in the hands of the people. The profits that can be derived there from should not be allowed to be invested where dead monies take over. Now that dead money expression to me is simply this - those of us in this room who own ranches and want to water them, are just as much entitled to the remuneration from powers as we are from water. I think the women won't like

but the women are getting too wealthy in this country and I think dead money investments at high rates of interest may do it. I don't believe that the water and the power should go to any people other than those who are going to work it and make use of it. You also have to think of the greatest good to the greatest number of people. You are certainly going to have to get busy and work out some form of preventing water grabs and land grabs making people who don't deserve our natural wealth becoming wealthy from it. You are going to have to take your time. This over production in agriculture is probably due to bad distribution. I don't think anything as big as the water problem of our state deserves a jump here there and yon proposition. I think the people who devise your plan are going to make it one that will take a lot of time and you are going to work slowly on it. There are other world areas to develop the same as there are other areas in our country here. We don't need population rushed at us so fast that the rest of our economy gets out of kilter because too much water makes too much wonderful land and too much sunshine attractive to too many people. It seems as though enough is enough until we find our neighbors have more of it.

It's pretty difficult sometime to keep an open mind about a problem as tough as the water problem is now in an area where maybe we're afraid some of it's going to get away from us. Certainly all of us are going to have to keep an open mind about it. I think most of us in the room today in twenty or fifty years from now will think back about what wonderful water years we had now. These are wonderful water years. As the population doubles and maybe triples, and I understand might even get four times greater in our state, we will really have a water problem. Again I say it's

going to have to be a take easy deal and if you people don't let the timber experiences of the past where a few people and families gobbled up millions of natural resources in dollar value, it can happen again on California lands. I say that who ever gets the water and the power should be deserving of it first and then should be made to pay for it. A dime today is a dollar with all the taxes taken out of it. We might even be able to develop this water cheaper in the future.

CHAIRMAN LINDSAY: Mr. Barron, we have one question here from Mr. Unruh.

ASSEMBLYMAN UNRUH: Mr. Barron, in line with what you are saying here regarding the enrichment of undeserving people under earned increments, do you think there should possibly be an acreage limitation in a state water plan?

MR. BARRON: I think definitely that a resource that affects everyone of us as much as water does, and as much as land does, and as much as power does, will become more and more controlled. I think I'm a free enterprize person and I certainly believe in the profit system. However, I believe that when you get down to talking about things that are becoming scarcer all the time and population going up more all the time and with no plan in sight to tell us how we can enlarge upon the water potential, there might be a time when acreage limitation could be a possibility. That could be a socialized answer I suppose but there are a lot of things to which we are limited. For instance, one of the things I think that is most degrading is the limitation in getting some of the most deserving people into colleges.

ASSEMBLYMAN UNRUH: In other words you think we will

probably have to come to this if we develop an overall state water plan?

MR. BARRON: I'm thinking in terms of four hundred million people. That will probably bring it about naturally.

CHAIRMAN LINDSAY: Any other questions? Is Mr. Strang in the audience? Mr. Strang.

MR. A. E. STRANG: Well I had quite a bit to say before I come here, but most everything I intended to talk about has been thrashed out thoroughly. There are a few things I do sincerely believe in. The main one of those is a hundred and sixty acres limitation to each individual for water produced by the state. I'm very much in favor of the Sheep Camp Reservoir. I believe that canal through the valley that Mr. Fairchild spoke about, pumped over into the Sheep Camp is the most feasible thing that I ever heard come in to our valley. I was born and raised in Sierra Valley. Born there in '81. I have watched this water flow out of this valley all these years and I think water enough comes out of those Sierra Nevada mountains to irrigate Sierra Valley every year, if it's properly handled. I think that water above Loyalton and the Last Chance Reservoir should be developed and of course there are a few others in the head of Sierra Valley such as the Clover Lake Reservoir is a very good one. That's about all I have to say. I thank you.

CHAIRMAN LINDSAY: Any questions of Mr. Strang? Thank you very much for your comment. This completes our agenda. Is there anyone in the audience who would like to be heard or comment on this problem? If not, let me thank you people for being very patient, very kind and very attentive to our committee here this morning in trying to bring together for our own knowledge some of the problems of Sierra Valley. Thank you very much and we will adjourn the committee.

STATE OF CALIFORNIA
OFFICE OF LEGISLATIVE COUNSEL

Analysis of Federal Power Commission v. State
of Oregon, Fish Commission of Oregon, Oregon
State Game Commission (June 6, 1955), 99 L.Ed.
(Adv.) 738

FACTS

In 1949, the Northwest Pacific Power Supply Company applied to the Federal Power Commission for a license to maintain a hydroelectric plant, the Pelton Project, on reserved lands of the United States¹ on the Deschutes River in Oregon, a non-navigable stream. The project is to include a dam 205 feet high built across lands of the United States below the junction of the Metolius and Crooked River tributaries. The western terminus of the dam is to be on lands within the Warm Springs Indian Reservation, while the eastern terminus of the dam is to be on lands of the United States within an area withdrawn from entry since 1909, being reserved for power purposes under an act of June 25, 1910 (36 Stats., 847).

The State of Oregon, the Fish Commission of Oregon, the Oregon State Game Commission and the Oregon Division of the Izaak Walton League intervened before the Federal Power Commission, objecting to the granting of the license. They urged that the commission lacked authority to grant the license since the applicant had failed to obtain a permit from the Hydroelectric Commission of Oregon; and that the dam would prevent the ascent of anadromous fish to their spawning grounds, the proposed fish conservation facilities being unsatisfactory.

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1. The Federal Power Commission has broad powers to issue licenses for all dams or other hydroelectric structures along or across navigable streams or on federal lands, except for dams constructed by the United States (16 U.S.C. 797).

The commission granted the license, finding that the project was needed to meet a severe power shortage in the Northwest. It held that the project will be subject to all existing water rights to the use of the waters of the river, prescribed temporary measures to be taken to meet the needs of the anadromous fish during the construction of the project, and approved facilities for the conserving of the runs of the anadromous fish which will be cut off from access to their natural spawning grounds by the proposed dams.

COURT OF APPEALS JUDGMENT

A rehearing before the Federal Power Commission being denied, the State and its agencies sought a review in the Court of Appeals for the Ninth Circuit. The court set aside the commission's order granting the license principally on the grounds that while a Federal Power Commission license was necessary for the project, the Congress, by its public lands legislation, long ago had transferred to the State of Oregon such control over the use of non-navigable waters that the applicant must also secure the permission of the State.²

REVIEW BY THE SUPREME COURT

The Supreme Court granted the certiorari because of the public significance of the issues.

² State of Oregon v. Federal Power Commission (1954), 211 Fed. 2d 347. The Ninth Circuit Court of Appeals relied principally on California-Oregon Power Company v. Beaver Portland Cement Company, 79L. Ed. 1356, where the court held that following the Desert Land Act of 1877 (19 Stat. 377), if not before, all non-navigable waters then a part of the public domain became publici juris, subject to the plenary control of the states with a right in each to determine for itself to which extent the rule of appropriation or the common rules in respect to riparian rights should obtain. The court there said: "The fair construction of the provision now under review is that Congress intended to establish the rule that for the future the land should be patented separately; and that all non-navigable waters thereon should be reserved for the use of the public under the laws of the states and territories named."

JUDGMENT OF THE SUPREME COURT

The decision of the court of appeals was reversed with Justice Douglas dissenting and Justice Harlan taking no part in the decision of the case.

GROUND'S OF SUPREME COURT DECISION

The Supreme Court divided its consideration of the issues in three parts:

1. Applicability of the Federal Power Act

The jurisdiction of the commission³ depends on ownership or control by the United States of lands on which the project is to be located. The authority springs from the Property Clause.⁴ Since the dam is to rest on lands of the United States, there is no question as to the constitutional or statutory authority of the Federal Power Commission to grant a valid license for a power project where the use of the water does not conflict with the vested rights of others.⁵ To allow Oregon to veto such use by requiring the state's additional permission, would result in the duplication of regulating control precluded by the decision in First Iowa Hydroelectric Co. v. Federal Power Commission, 90 L. Ed. 1143.

2. Inapplicability of the Desert Land Act of 1877 and Related Acts

Distinguishing the "reserved lands" in question from "public lands," the court ruled that the acts of July 26, 1866,

3 See Footnote 1.

4 Art. 4, Sec. 3, Cl. 2, U.S. Const. This section provides that: "The Congress shall have power to dispose of and make all needful rules and regulations respecting the territory or other property belonging to the United States;...."

5 Citing Sec. 27 of the Federal Power Act (16 U.S.C. 821), which reads: "That nothing herein contained shall be construed as affecting or intending to affect or in any way to interfere with the laws of the respective States relating to the control, appropriation, use, or distribution of water used in irrigation or for municipal or other uses, or any vested right acquired therein."

and July 9, 1870, and the Desert Land Act of 1877 construed in California-Oregon Power Company v. Beaver Portland Cement Company (79 L. Ed. 1356) as an express congressional delegation or conveyance to the state of the power to regulate the use of non-navigable waters, were not applicable to the "reserved lands" involved in this case. The court defined "public lands" as lands subject to private appropriation and disposal under public land laws. "Reservations" are not so subject.

3. Application of the Federal Power Act to this Project

This issue considers the question raised by the respondents as to the use of discretion by the commission in view of the consequences of the project that will extend beyond the limits of the reserved lands.

The first consequence of the project will be the interruption of the flow of the stream. The court held that this objection will be overcome by a provision for a re-regulating dam.

The other consequence is the effect on the anadromous fish. The court held that sufficient protection of such fish would be provided by the operation and maintenance of fish conservation facilities.

DISSENT

Justice Douglas dissented on the basis, generally, that the California-Oregon Power Company v. Beaver Portland Cement Company case is applicable to the lands in question and that Oregon law should be observed.

EFFECT OF DECISION ON CALIFORNIA LAW

The effect of this decision is to limit the application of the California-Oregon Power Company v. Beaver Portland Cement Company case and to vest in the United States the power to regulate the use of waters on all lands of the United States which are not subject to private appropriation and disposal under the public land laws.

We have been informed by the Land Management Bureau of the Land Office, United States Department of the Interior, that of approximately 45,500,000 acres of land owned by the

United States in California, about 16,500,000 acres are subject to private appropriation and sale under the public land laws.

Ralph N. Kleps
Legislative Counsel

by
George H. Murphy
Deputy

GHM:TG